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VOLKS WORLD

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Part 1 – to the rescue

The first instalment of what promises to be one of the most talked about restorations in the magazine's history. . .

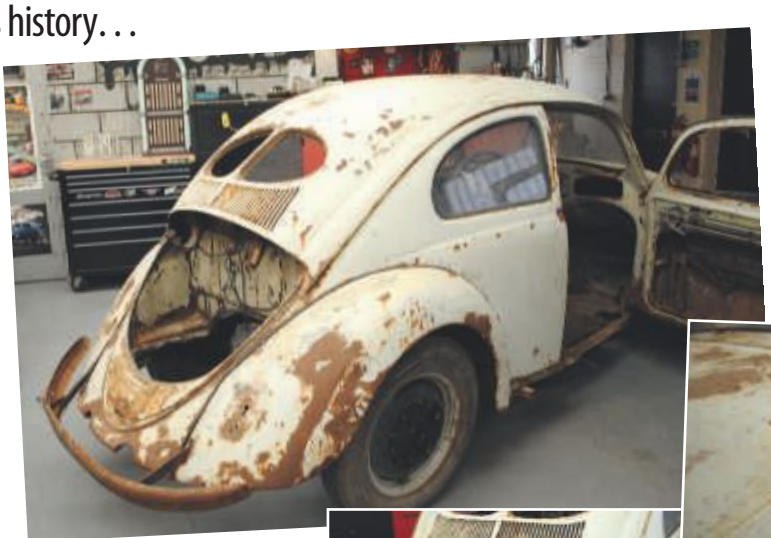
Photos: Lloyd Jackson

Undaunted by what would normally have been considered terminal rust, Lloyd Jackson at Deluxe Metal Works is about to unleash his considerable metalworking skills to save this 1950 Split. With other specialists getting involved along the way, his target is to transform this rust bucket into a prized exhibit at The *VolksWorld* Show 2017.

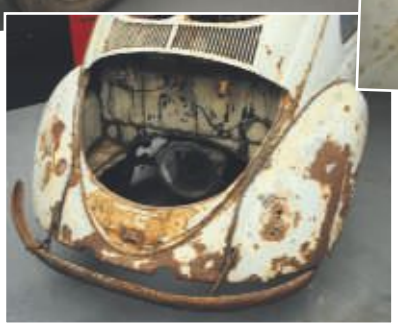
And *VolksWorld* is going to be there to witness every nut being loosened, every grazed knuckle and each and every step of the restoration process along the way.

Of course, it's not Lloyd's first project. He's been churning out some of the most outstanding projects the VW world has seen over the last few years, including a notable entrant in last year's Sandown show. And his magpie-like beady eye when it comes to tracking down potential show cars is what led him to buy this Split Window Bug some six months ago.

"I am always on the look out for new projects," smiles Lloyd. "I found this one



< Bug was rescued from a field in Portugal before being imported into the UK in 2015



> Luckily, the rear wings are original to the car, and even though they have had the wrong rear lights fitted at some point you can see the dimples for the original light housings which are only present on Split wings. They need a lot of work, but these will be an easy fix compared to some of the other body repairs

^ Bonnet has seen better days, but Lloyd's confident it can be repaired. There are holes on the inside where the hinges bolt up, so new metal will need to be let in here

This is one very rusty car, and one that's going to receive a lot of love in the coming nine months

Lloyd found evidence of plenty of past repairs

The idea is to retain as much of the original metal as possible

The Split Bug dash has to be one of the best looking fascias of all time. The passenger side heater channel and floor don't look so good though

on eBay, so I thought I'd give it a punt, simply because it had got matching numbers and originally I thought I could recycle it and use all the parts." Despite looking, as he puts it, "pretty bad," and missing quite a few important bits, he bought it anyway. "It sat in the workshop for a while but, as time went by, I just couldn't bring myself to take a disc cutter to it. It just seemed a bit disrespectful."

Eventually, the gut-wrenching moment arrived when Lloyd had to make a decision what to do with it. Anything is restorable, but he knew it would take a huge amount of skilled effort, time, patience and sheer dedication to get it anywhere near a road again. "To be honest, they don't come much worse than

> "I just couldn't bring myself to take a disc cutter to it. It just seemed a bit disrespectful"

LLOYD JACKSON
Past, present and future

For those who are not familiar with the work of Lloyd Jackson and his company, Deluxe Metalwork, we thought showing you some of his own VWs would give you an idea of the man behind the magic. And for the doubters, it also shows he has form in bringing gnarly Splits back from the dead in record time. Read on and be amazed. . .

Fat Bob Truck

The first car we featured built by Lloyd was this 1960 Single Cab in 2007. Humorously signwritten up as a redneck shop truck, with Fat Bob's Speed Shop on the cab doors, and shot with skinny Lloyd wearing a fat suit, this was more than just another patina Bus. Shot through with loads of cool details, Lloyd then fitted an absolute monster of a motor in the back, basically a race-spec turbocharged lump.

Slammed Deluxe Bay

Five years after the Single Cab, we featured Lloyd's Early Bay Window, a 1971 Deluxe. The secret with this one was it was static dropped and ran 17-inch alloys, which involved some serious, but not immediately obvious, modifications to the bodywork. Lloyd used his metalworking skills to re-make the interior cab metalwork and wheelarches, but in the style of factory parts. The exterior was left battered and bashed as, by 2012, patina was big news.

Six-month Split

We were stunned by the Split Window Beetle Lloyd debuted at the Freddy Files last year. He had restored the car completely from start to finish in six months. Not only was the timescale amazing, so was the quality. As usual, we put up the award for Best of Show, which means choosing one car at a show with over 1,200 VWs in attendance! We looked at every car there, but there was no doubt about the car we settled on – Lloyd's six-month Split! As you can see, no patina this time, just gleaming fresh paint throughout.

Crotch cooler daily

Somehow, in between all his customer work, Lloyd found time to build another Split, immediately after finishing the one that took the big prize at the Freddy Files. This was to be his daily driver, and was done in equally short time. It's a 1951 Deluxe and, as you'd expect, is slammed to the max. The car has been restored but not painted this time as the patina on it is epic.

Deluxe Buggy

Wanting to do something to show off his metalworking skills, Lloyd decided to make 'The Deluxe Buggy' from scratch. He based his creation on the Country Buggy made in low volume by VW of Australia, but it is not simply a copy. Compare the two and you'll see they are very different. Lloyd made the complete body himself from flat sheets of steel, then topped that off by making the bumpers and just about everything else as well. The chassis is a restored and slammed Type 1. We remain amazed!

Split Bug

< Rear valance shouldn't have the tailpipe cut outs, so that will need sorting. We're pretty sure that bumper's past its sell-by date, too

> Original 16-inch wheels are in very nice condition, unlike the bottom six inches of the 'shell itself

this. It's horrendous, but something inside told me I had to do it," reveals Lloyd.

So, as we write, the car is ensconced in the firm's Suffolk workshop ready to embark on the helter skelter ride that will lead to its show debut next April. The desperately short timescale is another reason Lloyd's constantly questioning his own sanity. "I keep looking at it and thinking I must be mad trying to do it in such a super short time period. I know people who would take 10 years doing something like this."

Abandoned vehicle

The origins of the car are sketchy, beyond the fact that the vendor who sold it imported it directly from Portugal. It was found abandoned in

^ The engine is original to the car. It's missing a few parts, which are going to be amongst the hardest parts of all to find

< By the looks of this corrosion, the engine has spent some time sitting in water

HORSING AROUND

This is what a stock 25-horse engine is supposed to look like! Note the coffee can air filter, star coil, D regulator and bizarre rear exit distributor. Lloyd's going to have his work cut out finding the missing bits for his unit so, if you have any leads, however tenuous, please let him know.

< The number plate on the car is a piece of art. The digits are made from alloy and will be restored to go back on the car. It's a shame there's only one

< When stripping a 'shell as bad as this, you need to brace it to prevent the body twisting, or even breaking in half. We opted for a bolt-in section with adjustable supports as it makes it easier to align the body when fitting things like the heater channels

^ Fuel tank is in really nice condition. This will be one of the easier parts to restore

< The original engine lid looks rough, but is actually pretty good. We'll see how it looks when it gets back from media blasting

a field, apparently. "I've tried to do a bit of digging, but all I've got from the paperwork is that it was first registered in Portugal on 6 December 1950, and that it was originally Bordeaux Red," explains Lloyd. However, he's got the log book, which proves the engine, gearbox and chassis numbers tally up, which is important. He recognises the fact it's probably spent much of its life off the beaten track by the nature of its previous repairs. "It's a bit like some of the South African vehicles I've worked on – there's evidence of all sorts of oddball fixing up having gone on."

The 25bhp engine is seized solid, and judging by the peculiar tide line on the back of the flywheel may have even been

v After removing several nightmare bolts, the body is separated from the chassis for the first time in over 65 years

Split Bug

^ The original split case gearbox will be removed and rebuilt

v Body tag shows it's a 1950 model and has the stamp mark of 11C, which means a LHD Deluxe Export model. Under the tag you can just make out the body number stamped into the body

submerged in water at some point.

As for the interior, Lloyd has the original seats, but they've been re-covered. The door cards are missing and, while he's got the speedo, he's not got the panel it fits in and he knows parts like this don't come cheap these days.

Noble ambitions

So what's Lloyd got planned for the car? Well, the general idea is to keep it stock, but take it a lot closer to *terra firma*. The restoration will involve what he describes as the "cream of the crop" amongst UK VW specialists, but he insists that won't mean being elitist. "I'll be using the best people, but just so we can show the right process. I see so many VW restorations where people have done just enough to get a car through an MoT, but that's not always the best way to do things because the cars need repairing again a few years down the line. Some cars I see have been welded three or four times in the same place, which is a waste of time and good money."

He admits the bodywork will prove the biggest challenge, along with tracking down all the missing parts. Although to that end, Lloyd has already made a few crucial inroads. "I've already sourced some parts like the semaphores through wanted posts on social media. I've also traded parts. I had an early '50's radio that would look great in a Porsche 356, Split or Barndoor Bus, so I traded that for a set of rear lights with a guy in Sweden. The bezels need a bit of work, but they'll be fine," he insists. "What I don't want to do is get within two months of The *VolksWorld* Show next year and still be desperately looking for parts. I am missing the headlights, interior light, rear view mirror, clock and clock dash pod, plus some engine tinware, the carb, air filter and exhaust, so if anyone has any of these parts, please give me a call on 01787 827400."

> "I've already sourced some parts through wanted posts on social media"

With a plan in place for everything, from metal fabrication to refurbishing the running gear, rebuilding the engine, sorting the interior and bringing the car into a state where it's ready to be painted we'll be bringing regular updates, kicking off next issue with stripping the body, blasting it and treating it ready for the rust repairs to get underway. We can't wait… ■

^ Lloyd gets to work on the chassis and learns the full extent of the rust. Front suspension rebuild should be reasonably straightforward

FOOD FOR THOUGHT?

Okay, maybe this is what our Lloyd has in mind for the Split Bug you see on these pages? We featured Martijn Houthuijse's 1950 Beetle in our April 2012 issue. He'd fitted a 1641cc lump with twin Webers, along with Firestone airbags on homemade mounts to cure his vertigo. Dutchman Martijn bought the car from a pensioner who had owned it for the previous 35 years and had been carrying out a slow restoration, so there wasn't all that much to do beyond a raft of ultra cool modifications when he got hold of it.

Part 2 – Revealing the rust

Lloyd Jackson at Deluxe Metal Works guides us through the process of body cleaning, rust removal and some initial chassis repairs on his 1950 Split project

Words and photos Lloyd Jackson

When it comes to removing paint and cleaning up rusted areas of an old car, it is important that it's done correctly. Over the years I've seen so many nice cars that have been blasted and ruined by so-called professional media blasting firms. If the blaster has no real experience of paint removal and rust cleaning on a vehicle body, they can do untold damage to good sections, warping otherwise straight panels and causing more work in the long run. This is mainly caused by using the wrong media, or too much pressure straight on a delicate panel.

We always choose media blasting over chemical dipping for several reasons. Mainly, we've found chemicals can get into body seams and create problems later down the line. Also, media blasting exposes thin metal that really should be replaced. That might create more work in the short term, but at least you discover what needs doing at the outset, which makes the work a lot easier.

If you want to go down the route of having your VW's body media blasted, there are loads of professionals out there, but please do your homework before you select a firm. Look at some of their previous work, talk to customers and assure yourself that you are happy with the quality of their work. Having a good understanding of the process of media blasting, and selecting a good operator will help you achieve the perfect start to your restoration. Be warned though, old VWs generally have to get worse before they start getting better…

> "old VWs generally have to get worse before they start getting better"

The first stage of cleaning a body is to manually strip off as much paint as possible before even going near it with any type of media blasting. Not only does this speed the process up, it will save you money with the blaster, too

Using an industrial paint stripper, the layers of paint begin bubbling up in front of your eyes and can then be scraped off by hand. This is a horrible, dirty job and the strippers are harmful to skin so work outside if possible and take all necessary precautions to protect yourself. As you can see, this body has been three different colours in its 65 years, but the original Bordeaux Red was found under there eventually!

The body is then steam cleaned to remove as much of the remaining stripper and paint as possible, prior to media blasting

The first stage of media blasting is to blast the internal structural areas of the body. We had half of the under bonnet area cleaned to provide this 'before and after' shot

"We always choose media blasting over chemical dipping"

Unsurprisingly, we found multiple areas that were heavily rusted through. Like this dash to fuel tank support panel. As expected, the body of the car is starting to look like a teabag. This panel is going to be particularly difficult to fix and will probably need a body cut from another pre-'55 car to do the job properly. You can see here how even the bottom of the dash is rusted through. We will hand make a new panel and graft in new metal to repair this

Sadly, there's not much left of this original heater channel section…

The rear luggage support panel is also peppered and is going to be one of the hardest panels to repair as it's such a big piece and there's so much rust damage throughout. Note the inspection hatch in the middle of the panel – this is only present in pre-1953 cars, making it almost impossible to find another. This will almost certainly need to be a handmade repair, but we love a challenge

The rear bumper hangers, rear inner wing section and lower rear quarters are going to need a load of love. All of these sections will need to be replaced. We'll have nothing but the best and therefore will be using high quality repair panels from Wolfparts and Metal Restoration in Sweden (www.wolfparts.com)

The framehead / firewall panel is totally ruined. We'll be looking for a replacement body cut for this section also

There's been an atrocious job made of welding up these semaphore holes in the past. If you look closely, you can see loads of metal distortion from having a plate welded in to fill the hole. This will be a tricky repair to put back to stock

Split Bug

The front inner wing looks to have a little lower nose damage, and the bottom three inches of the a-post section just seem to be missing

The windscreen scuttle panel has rusted through where the bonnet seal should be. Surprisingly, the window frame corners and the aperture itself are in very nice condition

After the body was blasted, we pulled it back into the shop and hand sanded the outer quarters. Media blasting can be too aggressive for these panels, so rather than risk warping, we just ask the blaster to leave them be

The lower a-post area has seen better days. Notice the inner strengthener and hinge mounting point is missing the bottom six inches

A huge thanks to the guys at Aqua Blast in Acton, Suffolk (tel. 0333 321 0757) for taking care of our body in preparation for us to start the metalwork stage. The Deluxe team has used Aqua Blast many times in the past, including on some very high-end Porsche and Ferrari projects, and we totally trust their judgment. Aqua Blast offer many different forms of paint removal and media blasting and usually etch prime the bodyshells before collection, though on this build we opted to have the Split left in bare metal, just applying WD40, which will be washed off prior to painting. This is partly because of the timeframe, but also because it makes identifying repairs more straightforward and unpicking panels easier

And so to the floorpan...

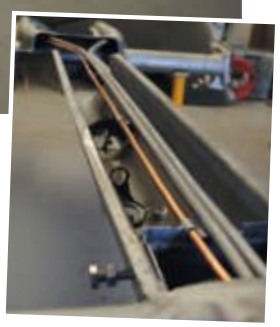
So now the body is all cleaned and we've had a good look at the extent of the metalwork required, we have made a huge panel list that we now need to work on sourcing. We will look globally for all of these. Our advice when restoring a car like this is to ensure that panels and parts sourced are of the best quality you can afford. Aftermarket repair panels can be very hit or miss, but these days there are a number of places offering very good, year specific reproduction panels. As with most things in life, you get what you pay for. On the upside, even though you may spend a little more than you'd like, the labour time in fitting will be shorter and the overall result will be to a much higher standard. So, while we're waiting for these parts to arrive, we started on the chassis. Like the body, this seems to have had a hard life and needs a load of love to bring it back to its former glory

With the body off, stripping a Beetle chassis is a relatively easy task, but this one has serious rust issues that caused a few problems along the way. Most of the bolts either broke or stripped their threads when we tried to undo them, but these are just things to take in your stride

> After removing the gearbox and front beam, we steam cleaned them ready for stripping and rebuilding at a later date. We will cover this in a later instalment

^ With the chassis stripped down to the bare spine, it is obvious there are lots of repairs required. The conduits the cables run in all appeared to either be broken or blocked with mud, silt and snail shells, which is also present in the main chassis spine, leading us to believe this car was parked somewhere wet and muddy for an extended period at some point in its life. We decided the best way to deal with this is to unpick the underside of the spine section and investigate its condition inside. It's an arduous job but is the only way to access the area and the conduits within

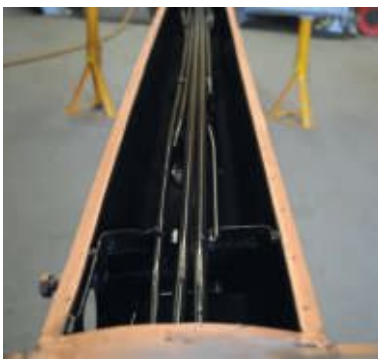
> "epoxy primer because it is non-porous and therefore offers excellent anti-rust protection"



^ > After locating and drilling out all the spot welds along both sides of the spine, we had it media blasted so we can start metal repairs and fuel and cable tube replacement. Note here we have fitted the new copper fuel line

> After the primer, the inside of the spine was painted black, even though no one will ever see it once the underside is welded back in place. Around the edges of the spine we used a copper weld-through primer, which offers excellent conductivity for stronger welds

< New fuel line, heater cable tubes and clutch cable tube all fitted and epoxy primed. We use epoxy primer because it is non-porous and therefore offers excellent anti-rust protection. We applied it in aerosol form so we didn't have to get involved mixing big quantities



^ After the repairs to the inside of the spine, we welded the underside section back in place, making sure the spot welds were put back just as if it had left the factory. Note all the holes where we drilled out the original spot welds have been plug welded

^ > The next job is to repair the Napoleon's hat section, which has some pretty bad rust issues. First, we cut out the main rusted areas then hand made repair panels to fix this section as there is a lack of quality repair panels available for early cars like this

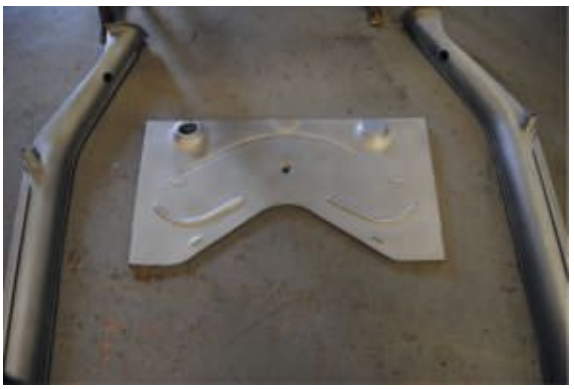
Split Bug

^ > We then had to fabricate these complex sections to make the repair. Parts like this are checked numerous times for fitment as they are being made and then again prior to welding in place

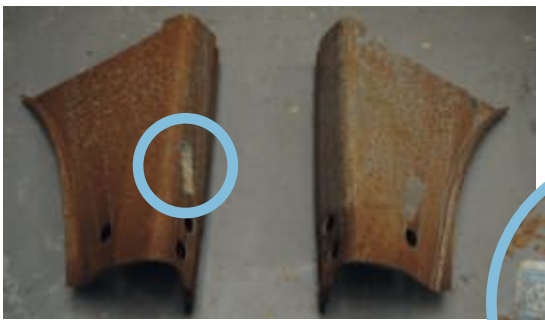
^ < Next step is to rebuild the underside of the Napoleon's hat section, but before anything is welded into place, the inner cavity is cleaned, rust proofed and epoxy primed for longevity

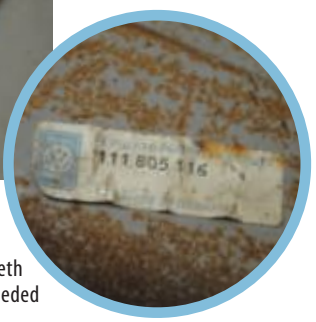
^ Here's the new copper fuel line emerging from the tunnel at the front. It is always best to replace this when you have the opportunity as rusted fuel lines will almost certainly cause running issues at a later date and replacement in a factory style is all but impossible when the car is back together

> With the Napoleon's hat area completed, we turned our attention to the tunnel itself. As you can see, the lower side of the main spine section has rusted through so we cut this out, made a new section and grafted it in



^ The first of our repair panels to arrive. This excellent reproduction bulkhead and heater channels were sourced through Custom & Commercial (www.customandcommercial.com)





^ > Another nice find, at the recent Lavenham historic VW show, was this pair of new old stock inner a-post panels, still with their VW labels attached. These are literally like hen's teeth to find so we were well chuffed to find them just when we needed some. They will be media blasted prior to fitting

Next month: Deluxe Metal Work will continue work on the chassis and make a start on the extensive bodywork repairs. We wish them luck!

Part 3 – Metal magic

Lloyd Jackson at Deluxe Metalwork gets stuck into the panel replacement on his 1950 Split Bug project

Words and photos Lloyd Jackson

When you've got your project back from the media blasters you can assess the damage of the rust throughout the body and panels. At this point it's best to make a comprehensive panel list, then start looking at the best places to acquire the panels and body cuts you need to finish the job.

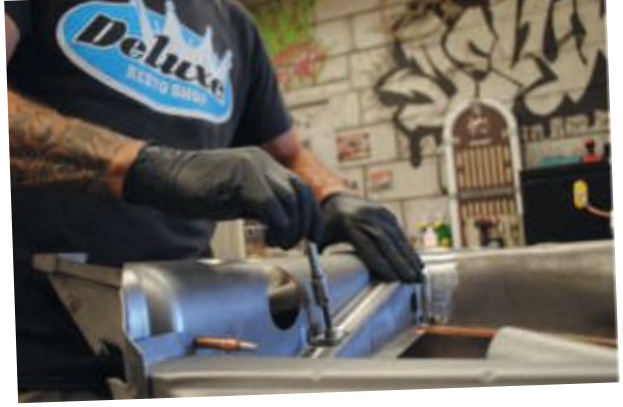
There are lots of very good panel providers out there, but some stand out more than others regarding quality and fit. Our advice is not to buy cheap as sometimes the fit and panel shape can be a mile off and the time spent making everything line up properly will soon outweigh the extra cost of buying better quality panels in the first place.

With that in mind, here's what we've been busy buying, fitting and making good on the '50 Split project over the past few weeks…

< > We sourced the front valance and lower spare wheel panel from the super talented guys at Wolfparts. These guys, based in Sweden, make the best early Bug parts in the world so, if you're taking on an early Beetle project and need panels, these are the people to get in touch with. Note the laser cut wiring tangs on the lower spare wheel well panel (below)

< Fortunately, Wolfparts also make these floorpan to body closing panels, correct for Split-era Beetles. These areas usually need to be replaced because rust loves to form where the heater channel meets this area of the body, even on good cars. We removed the originals in one piece by drilling out the spot welds and gently separating the joints, being careful not to unduly damage any of the surrounding metal we want to keep

^ We also sourced the rear valance and rear bumper hanger / quarter panel repair panels from Wolfparts. Again, quality is bang on



Here we are mocking up the new closing panels on the floorpan. When dealing with new, bare metal panels, always be sure to wear gloves because the sweat from your hands can turn bare metal rusty overnight. We also spray any bare metal in WD40 to help prevent panels flash rusting

Undoubtedly, mocking up panels prior to fitting is one of the most important parts of any good restoration. When doing this you need to think ahead, making sure it's not just the panel you are working on that you are checking, but also any that connect to that one. If you fail to do this, there's a high chance you'll find that other adjoining panels either won't fit at all, or will fit in the wrong place

"Our advice is not to buy cheap as sometimes the fit and panel shape can be a mile off"

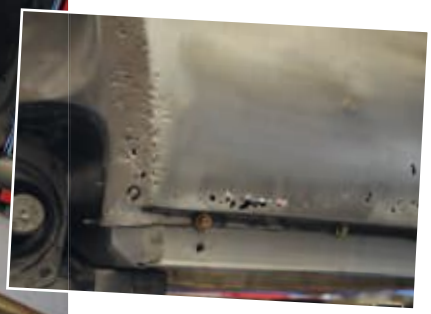
This is the heater channel mocked in place to the rear closing panel and temporarily held in place with panel pins, or Clecos. These are a great help when securing panels and much quicker than using self-tapping screws. Never weld anything in place until you have mocked it all up, checked your measurements and checked again. It is far easier to adjust a panel by removing a panel pin than it is to grind off a weld

Here's a full panel mock up of the floorpans in the main chassis spine with the heater channels, front firewall panel and 'pan-to-body closing panels all bolted down. This is a crucial stage. If you weld any of these in place without mocking it all up first you may run into difficulties when fitting the body to the 'pan

Here you can see we've ensured the rear body mounting points line up nicely with the chassis below. Awesome panel fit from the Wolfparts guys

This may look like a backward step, but now is the time to prepare everything prior to welding. We've bolted the front beam in place here so we can take measurements from it to line the body up perfectly on the 'pan

1950 Split Bug



> We prefer to use an air cut-off wheel to remove rusty panels, but an angle grinder with a 1mm slitting disc works just as well. Take your time, let the blade do the work and keep your cuts as neat as possible

^ With the lower panel mock up completed on the chassis, the body was placed back on top. You'll notice the floorpan halves have been left out at this point as we lined up the body using the front beam as the main reference point. However, the flanges the 'pan halves will be welded to have been given a coat of copper weld-through primer.

We have not yet cut any rotten external panels out as keeping even rotten areas of the original body in place all help line the body up correctly with the heater channels. Note the self-tapping bolts holding the lower quarter panel secure until we are ready to replace this area (inset)

^ Again, the use of self-tapping bolts to secure the body makes life easier when it comes to repositioning. That said, the lower nearside front quarter didn't leave us many reference points. The lower six inches of this area will be rebuilt using a quality repair panel from Finnish company, Virtanen Restoration Panels

^ This body mount which fits under the replacement Wolfparts closing panel was unpicked from the body to be repaired and re-used. We always try to utilise as much original metal as we can. We used the original panel as a template to fabricate a repair piece, then cut out the rotten part, welded in the new bit and linished the weld to finish. We then sprayed the contact side with copper weld-through primer. We always use this where two panels meet to prevent corrosion forming again in the future

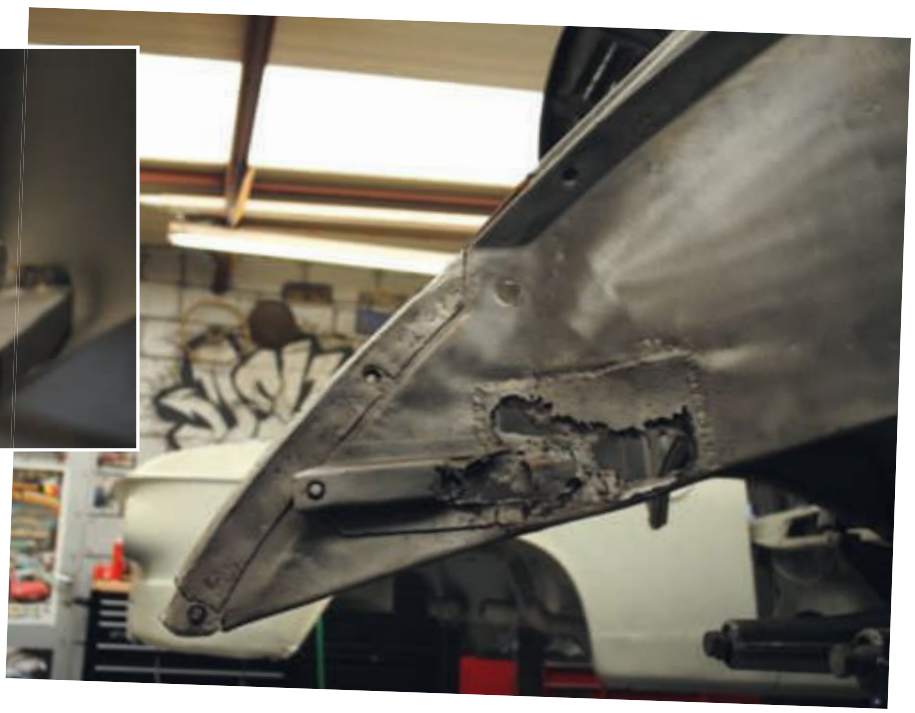
^ Here we are using the front beam to check that the front body mounts line up. Again, this is something not to overlook as it is key to lining everything up and ensuring the front end is in the correct position before welding anything

Planning ahead

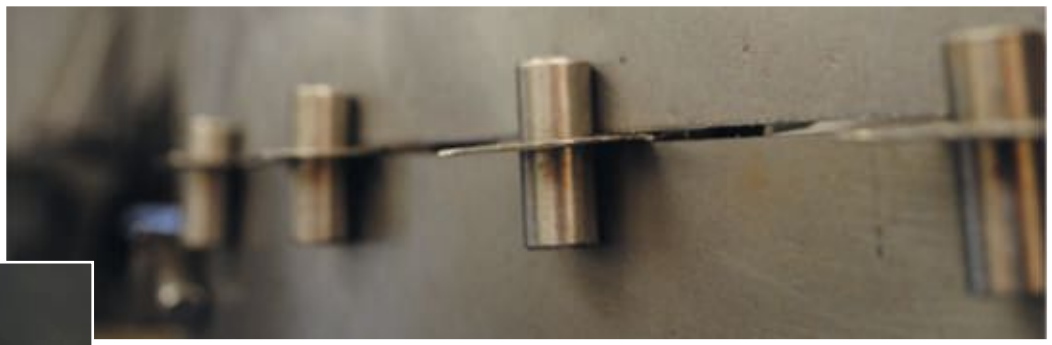
The secret when trying to hit a deadline, in this case the 2017 *VolksWorld* Show, is planning ahead. So, before we started welding in any new panels we put a call in to Stefan Rossi at Aircooled Engineering to see if he could help us with the rebuild of the matching numbers engine. After a quick chat about the build, and what we wanted, he agreed to take it on, so we dropped off the Split's engine at his Birmingham premises. These guys build some pretty trick engines, so the 400-mile round trip should certainly be worth it

The engine looks like it has sat immersed in water at some time, but Stef and his team didn't seem worried by the fact it's totally seized, so we have every confidence in their ability to bring it back to its former glory and purring like a 25 horse should.

< The engine bay side tray needed to come out so the rear bumper hanger panel could be fitted correctly. This is done by drilling out the spot welds with a 4mm spot weld drill, ensuring you do not drill through the outer panel



> ^ Finally, we get to the first repair. The offside rear bumper mount, and the area around it was in a right mess, with evidence of a horrible previous repair. All this needs to go. Using one of the original rear wing bolt holes (inset) we aligned the new Wolfparts panel, and then marked out where the old metal needs cutting



< ^ Finger clamps, or Intergrips, allow you to maintain an even 1mm gap between two panels to be welded. The clamp slides through between the panels, the pin drops in place and it's then tightened via the wing nut so it holds both panels flush. It is never advisable to butt weld two panels together without a gap as there's more chance of the panel distorting and pulling inwards. The gap allows the panel space to pull when welding and makes for better penetration as the weld has to fill the void between the panels, rather than just laying it on top

< Tack welds are then placed between each of the finger clamps, moving back and forth across the work area to help dissipate heat. With all the build up to the welding it's tempting to just blast away at it, but take your time and you will get a better result

< We always use a copper block on the back side of the panel when welding in new panels. If you don't have one, a 2p piece will work just as well. It stops the weld from blowing through and also acts as a heat sink to further prevent distortion

^ With the finger clamps removed, the tacks can be joined up across the panel. Neat, continuous beads of weld may look very nice but, unless you are a very competent welder, they're the quickest way to warp the surrounding metal, so stick to tack welds and work carefully and patiently, trying not to lay welds on top of other welds. For this sort of work we use a 180A MIG welder on setting 5, which is roughly 150A

^ And now the moment of truth. Weld penetration is key to a strong repair and this is what you are looking for on the back side of your repair – a neat line of fully penetrated welds. Ours are flat topped because of the copper block we held behind. If you are confident you have penetration like this, you can grind down the back of the weld area flush as well, but it is not strictly necessary

v A quick grind up on the outside using an abrasive flap wheel on the grinder and the two panels become one. It might take some practice to achieve this sort of finish, but it doesn't take any more specialist tools, just care and patience

Unearthed treasures

As we are going for pretty much a stock restoration here, the success or otherwise of the project depends on the ability to acquire the correct Split Window Beetle parts. Collectors rarely like to part with desirable pieces, so Lloyd managed to swap a few unwanted bits from his own stash for items he needs for this car.

Be warned though, Split Beetle parts are not cheap. The 'coffee can' air filter here came via a facebook post, and Lloyd managed to barter the seller down to £300. It will need stripping and restoring, but he's breathing a huge sigh of relief as this was one of the parts he was most worried about finding.

The new old stock bonnet badge was another fortunate facebook find and, whilst on a roll, Lloyd also managed to grab a nice early Bosch distributor with the correct logo and cap for a 25-horse engine.

Most of these parts are not reproduced, so the choice is down to NOS, if you can find it, or good used second hand. As we've said before, start with the most complete car you can find or you could soon be into several thousand pounds for a couple of bags of small parts…

> "Collectors rarely like to part with desirable pieces, so Lloyd managed to swap a few unwanted bits from his own stash for items he needs for this car"

^ As you can see from all the perforations, the nearside lower quarter needs a load of love. We decided to hand make a repair panel for this area instead of buying one

> Here you can see how much higher up the panel we went to ensure all rust was eradicated. Again, finger clamps were used to hold the new panel in place ready to be welded in

1950 Split Bug

Once fully welded and ground flush, you'd never known a repair had been done. Be warned though, this is one of the easiest areas to warp on a Beetle body if you are too enthusiastic with the welder. Or the grinder for that matter

The inner frame and section where the body attaches to the heater channel is in need of repair. This is a relatively easy part to fabricate, if a little time consuming, and for a factory-looking repair you'll need to retain that angled bracket, too

After making our repair panel, we used a spot welder to replicate the factory style of fixing. If you don't have one, drill a series of holes along the edge and plug weld it in place, then grind them down for a neat looking repair

Panel choice

There are many different suppliers offering Beetle repair panels these days, but the ones we recommend include:

Wolfparts and Metal Restoration, Sweden
Website: www.wolfparts.com
Tel: +46 707 640 511
In my opinion, these guys make the best quality reproduction panels on the market for early Beetles. They specialise in front and rear valances, rear bumper mounts, body-to-'pan closing panels and lower spare wheel panels. The attention to detail in the pressings is amazing, all panels being pressed in a similar way to how they were originally made by VW, using dies made from new old stock panels.

Virtanen Restoration Panels, Finland
Website: www.restorationpanels.com
Tel: +358 (0)45 809 5100
Another excellent producer of early Beetle replacement panels, with a comprehensive, and quite different, range including inner lower ribbed door repair panels, rear body mounts, front body mounting / fuel tank support panel, a-post outer panels, headliner grippers and more. The company stocks over 200 different restoration panels and parts specifically for early Beetles.

Hooky's Panel Shop, UK
Website: www.hookyspanelshop.com
Tel: 07967 235571
Thirdly, from right here in the UK, Hooky's make and supply a variety of very nice reproduction sections, including rear bumper mounts, lower a-post panels, heater channel closing plates and rear body mounts.

Autocraft Engineering, UK
Website: www.autocrafteng.co.uk
Tel: 024 7639 8217
Another UK supplier that specialise in hard-to-find repair panels, Autocraft hold a wide range of stock, but only actually make a few panels for early Beetles (though the panels it makes for Split Buses are second to none). Those it does make are good and come at a great price.

Klassic Fab, (available in the UK through Custom & Commercial)
Website: www.customandcommercial.com
Tel: 01372 452622
Klassic Fab make a wide range of early Beetle panels, including heater channels, floorpan halves and Split and Oval Window-specific wings. Most parts fit very well, but as not all the panels you might want are always in stock, get your order in early to avoid holding up your project.

Next month Lloyd and his crew will be cracking on with the rest of the body repairs…

Make, not mend

Part 4 – The Deluxe Metalwork team work their magic fabricating the panels you can't buy, and cross yet more jobs off the excruciatingly long to-do list

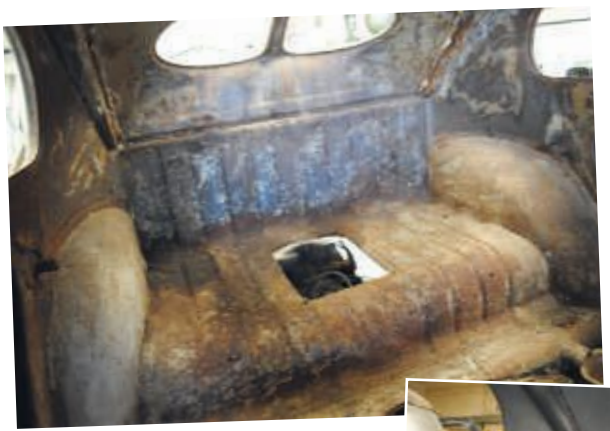
Words and photos Lloyd Jackson

It's been a busy month, and getting work done on the Split Bug project has been difficult with all the other work going through the shop. The main area we wanted to concentrate on was the rear floor / luggage panel, which we knew was going to be one of the hardest parts of the 'shell to restore as no repair panels are available. We spent some time looking for a body cut to repair it with and, if time had been on our side, we might have waited longer and eventually found one. But the clock is ticking.

We then considered using a pre-'55 Oval luggage panel, as we have a parts car available to cut it out from. But on closer inspection we realised they are quite different – the ribs are flat, not curved like the Split Bug and the panel itself is actually 40mm shorter. This left us thinking maybe we could repair the original panel, but that was a tall order as the whole section was peppered with rust holes, so it would have taken a long time, and there was a risk it would have ended up looking like a patchwork quilt.

At this point we started to feel a bit despondent. It's something everyone goes through at some point in all projects. If you've ever done a full restoration, you'll know exactly what I'm talking about. With a long-term restoration you can walk away, wait for the right part to turn up and / or work on another part of the project, but not in this case. The timescale we are working on, trying to get it ready for next year's *VolksWorld* Show, means every day is precious and there can be no walking away.

The only solution left to the problem of the luggage panel was to hand make one from scratch...



< On first inspection, when the car arrived in the shop, the luggage panel didn't look too bad. But you never know exactly what it's like until it has been media blasted…

> And that was when we saw just how bad it was, with lots of tiny perforations throughout. It was so bad, repairing it just wasn't an option

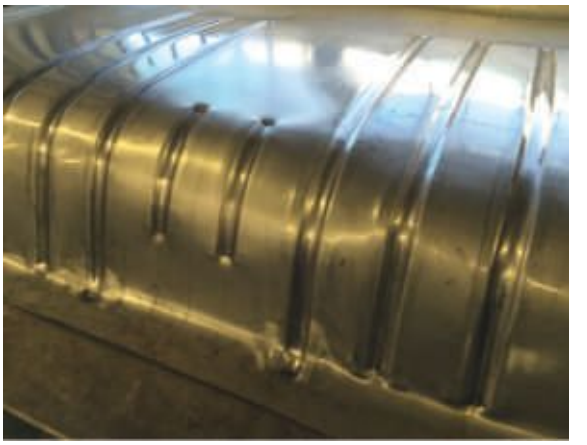
< So, once the decision was made to make a new part, the original was carefully unpicked and removed so we could make a template

< ^ The Pullmax machine is an awesome tool that helps us make many panels for all different types of projects. In fact, this machine made 95% of the panels for our Country Buggy project we built earlier this year. It is basically a punch machine that allows you to reproduce pretty much any type of pressing

^ The first stage of making the new luggage panel was to make the curves in the correct position

> We then made this form tooling to replicate the original ribs in the luggage panel

> Here you can see the luggage panel starting to take shape



> “The timescale we are working on, trying to get it ready for next year’s *VolksWorld* Show, means every day is precious and there can be no walking away”

Although we have hand made lots of panels over the years for VWs, Porsches and Ferraris, this panel is a big task. It has a lot of detail in the different shapes and pressings and, obviously, has to be an exact match to the original or it won’t fit. But what’s the worst that could happen? We waste a whole load of time, which is one thing we don’t have much of…

Tooling up

The first thing to do was to make the tooling needed to reproduce the pressings in the panel. We will use a Pullmax machine to make the panel, which is basically a punch / hammer machine that greatly simplifies the process of creating many different types of swage, rib or other metal forming procedures. Once we had the exact form shape tooling, we ran a few small tests to see if we could form the pressings in both convex and concave curves. It worked, though we had to modify the tooling a little by giving more radius on the edges so when running the curved sections through, the machine didn’t flatten the overall panel shape.

^ The tricky bit was running the curved sections through the machine and keeping the ribs perfectly straight. We only wanted to make this panel once, so set up a fence to work against and took our time

1950 Split Bug

> Next we had to hand dress the domed section in the lower centre of the panel using a nylon teardrop hammer and a sand bag on the underside

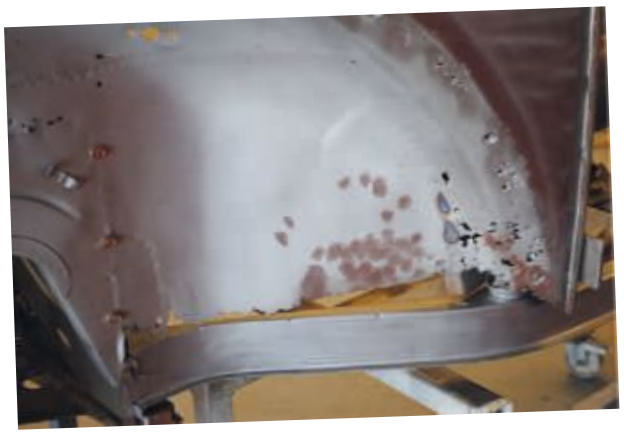
> Another great tool we use a lot in the shop is a foot-operated shrinker / stretcher. This was used to make the curves on the side lips of the panel

"It was very pleasing to watch the panel take shape"

> Once the panel was finished, all the edges were painted with a copper weld-through primer, which protects the metal between the joins of the panel and helps with conductivity when spot welding. Our tip is to always use a weld-through primer on any panel join

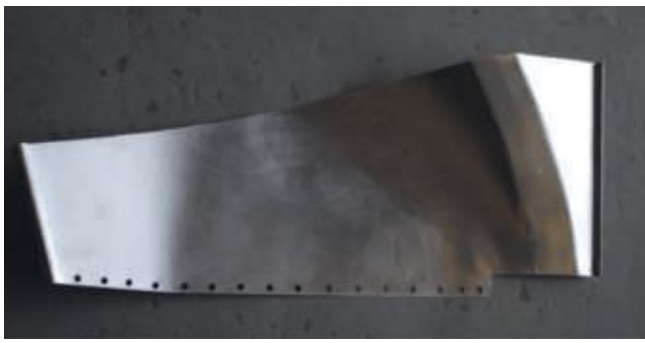
< We purchased an inspection hatch section from Virtanen Restoration Panels and welded it into our luggage panel

> This is it welded in. I won't deny it was a massive task to make but, with a little clean up work and a few bits to dress out with a hammer and dolly, it will look like it's never been replaced. To say we were happy with this would be an understatement



< The next job on the list is to repair the lower front quarter and a-post section

> First we had to cut out the rusted part of the lower quarter



< The new panel was handmade, copying the section that had been removed

< > Here you can see the lower repair panel welded in, which involved a little lead work. Note that the door has been fitted to ensure gaps and fitment before fully welding to the heater channel section

< This is the lower a-post section where the bottom door hinge bolts up. As you can see, it is totally rotten so was another area that needed to be completely rebuilt

> Here's the a-post inner frame repair done, ready to fit the new old stock a-post outer panel that we picked up at Lavenham vintage VW show a few months back

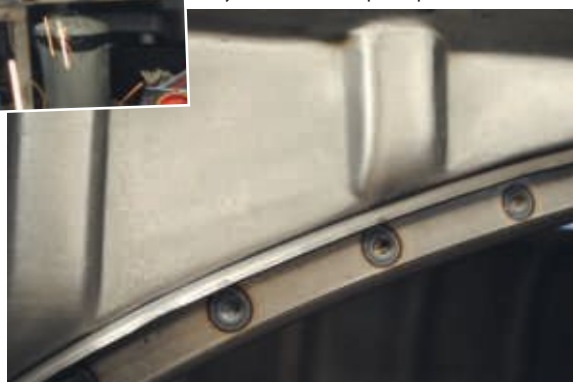
^ This is the NOS a-post panel painted on the inside with weld-through primer

> And here it is welded in and detailed. Another job done and off the list

< We used a copper weld-through primer on the sections that needed to be spot welded and epoxy primer on the rest of the a-post inner strengthener. This will help protect the metal as, once the outer panel goes into place, you cannot access this area

^ Next up, the engine bay seal retainer needed to be replaced. After removing the old rusty one, the area was cleaned and painted with weld-through primer ready for the new piece

< Here we are spot welding the new engine bay seal retainer strip into place



^ As you can see, a good spot welder gives you that factory fresh finish we are after

Once we were happy with the tooling and how it performed, we made a start on the sheet metal blank that would become our new panel. We arrived at the basic shape by making a thin cardboard template of the original panel, and then adding 25mm to the total size to account for the material lost from the overall width during the rib pressing process. We then accurately marked out on the panel where each pressing needed to go using a scriber and masking tape. Next, we folded a 15mm fold on both sides of the panel, from front to back. This was done to help the panel hold its shape on the convex and concave curves. We used a foot-operated shrinker / stretcher to help curve the panel, along with a set of slip rollers to roll an even curve across the whole width of the panel. This was made more difficult by the very tight radius of one of the curves, which required a lot of hand manipulation before we could start running it through the Pullmax to add the pressings.

We began to put the pressings in the metal blank from front to back, starting in the middle and working outwards. We set a back stop on the Pullmax and did the left hand side first, then the right hand side until all the pressings were in. It was very pleasing to watch the panel take shape, and to see it looked exactly like the original.

1950 Split Bug

Because we needed to replace the engine bay side trays, we mocked up a spare 25-horse motor to ensure their positioning was correct. It always pays to mock up everything as the one time you don't will be the time something doesn't fit. It's better to take a little extra time to ensure it is correct the first time

We also mocked up the rear valance before fitting the side trays to make sure everything goes together as it should

On the straight and narrow

We are really looking forward to receiving the 4-inch narrowed airbag beam that Dog Back Beam Performance in Germany are building for us. These guys know how to build an awesome product so, if you're looking for a front beam with the best quality ride money can buy, check them out! As you might have guessed from this, not everything on this build will be stock…

Again, using the spot welder here meant we could achieve a factory finish

Another job that needed doing was sorting out the semaphore holes in the b-posts that someone had badly welded up in the past

And this is one side spot welded in. Another job done

Here we are stretching the engine lid seal retaining strip to the shape of the rear valance on the shrinker / stretcher, prior to spot welding in position

When you've spent a couple of days working on a panel to get it to this stage, all the while knowing that you're still only about halfway through, you can't help feel a bit nervous about making a mistake, which in a matter of seconds could see the whole panel fit only for the scrap man.

We cut out the welded in panel, straightened the b-post section and mocked up the semaphore indicator. Doesn't that look better?

Nervous moment

Next, we added the domed section in the lower middle of the panel by taking a cardboard template of the original and transferring it to on our new piece, then dressing the metal with a nylon teardrop hammer on a sand bag. A panel beating spoon and radius dolly were then used to tidy it up and remove the hammer marks.

Feeling like we were nearly there, the panel was trimmed down and a 15mm folded lip added to each side where it will be spot welded to the rear quarters. Only then did we reach the moment of truth. Would the panel fit?

I don't mind admitting it was a nervous moment. Nearly a week of hard work had gone into making that one panel, and it might not even fit. Well, I'm pleased to say that nervousness didn't last long. When the panel was put in place, it fitted perfectly. A huge sigh of relief and a celebratory beer was in order!

Once we knew the panel fitted, it was time so sort the section where the inspection hatch is. This was done by using a replacement hatch section from Virtanen Restoration Panels in Finland (www.restorationpanels.com). After all the work we'd already done, cutting out the section where the hatch went and welding in the new panel was a walk in the park.

In total, we spent five and a half days working on this panel, but we could have spent five and a half months waiting for a body cut to turn up, so it was time well spent. But now we really have to crack on with the other repairs. ■

^ > Once the engine bay side trays were in place, our attention turned to the rear valance, which was one of the easier jobs because of all our previous rear end work and the quality of fit from the excellent Wolfparts panel. Note again the use of weld-through primer

< Spot welding the rear valance in place was a satisfying job because it brings to an end the weeks of rear end metalwork, and that part of the body is now complete. It must be time for a well deserved beer or two, no?

> We've said it before, and we'll say it again. Weld-through primer is a must. Use copper weld-through on all metal parts that are spot welded together as not only will it help prevent rust developing between the two, it offers very good conductivity as well.

Next month...

More repair panels have now arrived from Virtanen Restoration Panels in Finland, including some very nice lower inner door bottoms. All the parts we've been gathering for this build have been to an excellent standard, which makes a project like this a lot easier, and considerably more enjoyable

TOOLS OF THE TRADE

Here are just a few of the hammers and dollies we use every day while working on a project like this. Note not all of these tools are designed for metalworking. The brick bolster chisel over to the left is great for dressing shapes into metal

^ This is what's called a slapper – it's not something you'd pick up on a night out for sure. Slappers / metal shaping spoons are fantastic at taking out dents and ripples in panel work

v Panel pins and sprung c-clamps are a must for panel mock up

> v We use a lot of mini (50 or 75mm) cutting discs, grinding discs and Scotchbrite discs. Being smaller than the traditional 4½in (114mm) discs, they give you better control and a better detailed finish to the metalwork. We recycle the old part of these cutting discs by using them as backing pads for the grinding discs. This stops the disc from flexing, allowing you to grind more precisely

v You can never have enough clamps!

^ Here are a few of the air tools we use that make like easier. Electric versions of most of these are available but, if you can stretch to a decent size compressor, air is definitely the way to go

70% proof

Part 5 – As time ticks by, Deluxe Metalwork reach a crucial point in the body repairs, and the mechanical bits are starting to come together on the side

Words and photos Lloyd Jackson

This month, we're covering a few more jobs on the bodyshell, and making sure some of the big mechanical parts that need rebuilding are underway so nothing can hold us up in the race to the finish line.

As I write this instalment, there's just 151 days to go until we debut the car at The *VolksWorld* Show, so it's becoming ever more critical to make sure everything is in place so we hit our deadline. As such, as well as doing everything we can in house, we've been spending a lot of time sourcing parts for the build, and dropping other parts off for reconditioning.

One of the big things we've been focussing on this month is the gearbox, which needs a complete rebuild. We delivered it in person to VW gearbox guru, Peter Englezos at Cog Box. It was an awesome afternoon meeting Pete and a great excuse for Kingsley and I to get away from the shop for the afternoon and chat all things VW.

We've also been speaking with Stefan Rossi at Air Cooled Engineering about our matching numbers 25-horse engine that he's been stripping in prep for reconditioning.

This hasn't been an easy task for Stefan, as the engine was seized and so there are a lot of parts that simply can't be rescued, which means we've got another big job on our hands sourcing a load of rare engine parts now as well.

After a two and a half hour journey to London, we arrived at Cog Box (tel. 020 8842 2580) to see if Pete can save the split case crash gearbox from our car. Pete has been building gearboxes for the last 25 years, and his knowledge and enthusiasm makes him the best man for the job bar none.

On first inspection, the gearbox looked in great shape, other than some cosmetic parts that need replacing, but, as with the whole project, we want to know everything has been checked and restored where necessary, so Pete is going to strip the 'box, have the case media blasted and then rebuild it with new bearings and seals. We will cover this process in more detail in a future issue so, for now, we leave it in Pete's safe hands, happy that's another big job ticked off our list

The all-important production numbers were revealed after using a wire brush. It's the matching numbers gearbox for our 1950 car so it's important to us to re-use this 'box and save as much as possible

< We've also been busy sourcing some of the other parts the car was missing. This 26PICT carb was picked up through a friend on Facebook for £80. The unknown condition meant it was a bit of a gamble but, other than a leaky throttle spindle, there's not much to go wrong on these, and a rebuild should be easy

> Our blast cabinet saves us loads of time

> After a clean up in the blast cabinet with a super fine glass bead media, the carb looks like new. Now it will be stripped, very thoroughly cleaned and overhauled. With the linkage parts re-plated, when we're finished it'll look like it did when it left the factory 66 years ago

< The 66-year old steering box looks like it has seen better days but we would like to re-use it so it's going to have a clean in our blast cabinet and then be stripped down for assessment. This is going to be a tricky part to rebuild as internal parts for these are extremely hard to come by. Hopefully, we will be lucky and find there are no internal issues to deal with, but we're not holding our breath

> After a clean in the blast cabinet, the steering box looks loads better. Again, we'll cover the rebuild in an upcoming issue

^ Our blast cabinet saves us loads of time when we're restoring and detailing parts. We only use this for small parts as all the bigger ones are sent to Aquabast, the people who media blasted the 'shell and chassis for us

BAG OF TRICKS

^ **Another vital part to our build has now arrived! The four-inch narrowed Dog Back Performance air beam. We were all in awe when we unpacked this as the engineering work that has gone into it is amazing**

^ **Our beam uses just one air bag mounted on the opposite side to the steering box, which turns the centre of the torsion bar in the lower tube of the beam**

1950 Split Bug

Last month we uncovered one plated over semaphore indicator hole, so another little job this month was to remove the patch welded over the other side and to re-instate the original recess

Amazingly, whoever welded them up left the original ribbed semaphore in place! Sadly, this one is unusable as, with these parts going for about £350-£450 each, they're another expensive item on our to-buy list

> "Semaphores are one of the things we adore most about early VWs"

With the old semaphore removed, the recess was tidied up and we mocked up a new, later-style semaphore to check fitment. Semaphores are one of the things we adore most about early VWs so they have to be right, and have to work

Another part we have bought for the build was this early Split Bug ribbed door from Steve Walker. It looks okay, but it needs some love on the lower inner frame and outer skin

First job was to brace the door and then cut off the rotten portion of the inner frame. In the past this would have been a tricky repair due to the ribbed pressing in these early doors

But a lower door repair panel from Virtanen Restoration Panels in Finland made light work of the job. Virtanen is the only company that makes repair sections for these doors and the quality and fit are excellent

Once the lower door repair was complete, the door was re-fitted to check alignment. The door gap and swage line looked bang on, so we will now send the door out for media blasting. Remember what we said in a previous instalment about blasting though. Doors are very susceptible to damage by an inexperienced blaster, so our advice is to bare metal the main exterior panel by hand and just have the edges and frame blasted

^ Moving on to the offside rear quarter, more body repairs are needed here

^ Once the rusted area was cut out, we epoxy primed the inner frame and used a copper weld-through primer where we will be welding in the lower repair panel

^ This time we handmade the necessary repair panel, making sure the three drain hole pressings are exactly the same as the original panel we cut out. Here it is fitted with the initial series of tack welds made

< Keep moving about the panel, placing tack welds as you go to avoid excessive heat build up. Once welded in, we used the air mini grinder to linish the welds. Again, work carefully and move about the panel

> With the repair panel in place, we then needed to address some panel damage about 50mm above our repair. We used a heat and shrink method to address the stretched metal

^ > The process involves applying heat in a very small area and then cooling it instantly using compressed air. This rapid heating and cooling causes the metal to shrink and tighten. After several heat shrink spots, we had pretty much eradicated the ripple that was in the panel, so it is now ready to be detailed

^ After detailing, the quarter panel is nice and straight again, just how we like it. This side is starting to look really nice now

RESTORATION SERIES
1950 Split Bug

Another part of the car that has seen some love since last month is the offside rear wing. It's the original one that was on the car, hand dressed back into shape and ready for some detail work. We had to repair the inner mounting edges and re-shape the recess where the rear light holder mounts

As you can see, the lower rear 'corner' was pretty beaten up and had this fatigue split. Damage like this is common on early wings, especially if they have been kinked, and the only remedy is to re-shape and carefully weld up

Both rear wings were given the same treatment and are now ready for a final detail

A simple but time consuming job was the offside lower a-post repair. Again, this is a job we have already covered on the other side, so we won't go into as much detail here. Here it is with the outer skin removed, exposing the inner strengthening panel…

…and here it is with the new old stock a-post panel we picked up at Lavenham mocked up in place. Naturally, being a genuine panel, it fit like a glove, so a quick blast in the cabinet and it was ready to weld in place

After the lower a-post panel was welded in, we then needed to fit a new heater tube from the heater channel up to the dash air vent. For this we used a piece of flexi pipe from Virtanen Restoration Panels. If you don't do this at this stage, you will never properly access this area again

Here's the offside front inner wing repair panel welded in at the top. Note the copper weld-through primer and self-tapping bolts holding the panel in place at the bottom. The row of holes are to plug weld the panel's lower edge to the heater channel

Once welded, the plug welds are ground down and then gone over with a single sided spot welder to give a factory look to the repair

> Next on the metalwork hit list was the fuel tank to dash support panel. Again, we knew this was going to test our skills as there are no repair panels available for this section, and ours was toast, with evidence of a nasty former repair, too. This time though, rather than make a panel from scratch, we sourced a body cut from an early Oval

< To begin with, we cut the original panel out but, before we could weld any new metal in, we had to address the lower dash section which, as you can see, was also peppered with rust holes

> To remedy this, we made a repair panel by hand and welded it in. Quite pleased with this one, it looks like it was never touched

< And here's the Oval body cut welded into position and detailed. Note how it has the same pressings as the original panel shown at the top

< Before we could finish the fuel tank to dash support panel repair, the front bulkhead / firewall panel needed to be spot welded to the area that meets with the Napoleon's hat section on the floorpan. At this point, we did a quick calculation and reckon we have completed around 70% of the necessary metalwork

> Lastly for this month, we move onto the front section of the body. Though it was far from pretty, it was easy to repair thanks to some excellent panels from the talented Wolf Parts and Virtanen Restoration Panels

^ As usual, things have to get worse before they get better, so the first job was to cut off the old valance. Then, it was time to remove the inner spare wheel well panel, which again was riddled with rust and badly out of shape

^ Working off the car, we spot welded the lower spare wheel well panel and front body to beam support panel together, ready to be welded back into the body as one piece. Note extensive use of copper weld-through primer here. If you do not use this between your joint seams, rust will quickly start to form

< A nice, easy repair this one. The Wolf Parts panels fit so well that it's just a case of offering into place and spot welding together. That's another big section finished – happy days

Next month. Hopefully, if all the parts arrive in time, we'll take you through the rebuild of the 25-horse engine that, last time you saw it, looked like the Titanic's anchor!

Full metal jacket

Part 6. After a solid four month's work on the chassis and body, nearly 50% of the original body has been replaced. In that time it's gone from a 'basket case' to a full metal jacket, with the correct panels and parts that will ensure this car's restoration lasts the test of time

Words and photos Lloyd Jackson

I'm not going to say it's been an easy job. Projects like this really test your patience, sanity and bank balance. Our aim all along was to save a 1950 matching numbers car from being cut up and sold for parts, though there have been times when we have said that would have been the best option! Before we started, looking through rose-tinted glasses, we expected to spend around two days a week for around four months on the metalwork. In reality, we've spent four days of every week working on the car, and still have bits of the chassis to finish.

But standing back and looking at the bodyshell now, all the lows disappear and a feeling of achievement takes over. The body looks amazing. None of our repairs can be seen and it looks like it would have done when it was first put together in the factory 66 years ago, right down to the last spot weld. That was our goal.

From here, the 'shell will go to Spike's Vintage Restorations for body prep and some of their famous 'mile-deep' paint. These guys are booked up for at least 12 months, but have been amazing and agreed to support this project. There's a lot of love going into this build.

We have complete faith in these guys, as the last car they painted for us was our hand built 'Country Buggy', which they turned round in 48 hours, and painted twice as we didn't like the colour we'd chosen first time round!

The Buggy was very different to this though, and even though there's six weeks to go before the car is booked in with the trimmer for its new headliner and interior, there's a ton of work and hours needed to get it to the show standard we are aiming to achieve. If that all goes to plan, it will then return to us for the final build up in time for its debut at The *VolksWorld* Show in March.

This is a very exciting stage for us, as when we next work on the car it will be painted and trimmed, so we'll be swapping our dirty welding gauntlets for clean nitrile gloves.

> "standing back and looking at the bodyshell now, all the lows disappear"

^ Firewall panel and fuel tank to dash support panel, spot welded in and looking factory fresh. Just how we like it!

> The front quarter had seen some action and was beaten and peppered with rot. We were fortunate in that a friend had a pre-'55 front quarter body cut left over from his own restoration that we could use. As many readers will know, a pre-'53 Beetle is slightly different to a pre-'55 in many areas, but thankfully the area that differs in this section did not need replacing. This was a stroke of luck for us as sourcing good, early body cuts is a real challenge. Thanks Steve Brown

^ When we cut out the damaged area, we left the wing bolt section in place and used it to position the new panel and ensure perfect panel fit. Note how the swage lines at the top are nicely aligned. This isn't the easiest way to do a panel join, but guarantees a good fit. If anything was incorrect with the position of this join it would show on the swage lines

Shaping the j-section is almost impossible without the use of a stretcher, which allows you to achieve the perfect curve for the bonnet seal trim

^ This shot shows the original front valance spot welded back into position and the area in copper primer where the j-section that holds the bonnet seal in situ will fit

> The use of a good spot welder is key to obtaining a factory-style finish. If you ever want to do this job yourself, hire or try and borrow a good spot welder as, although a MIG tack will do the job, it never looks quite as nice

^ It's not just about the right tools either. If you want your repairs to look factory, look carefully at how the factory did things. The original spot weld spacing was measured, and then new ones placed at the same intervals – here every 15mm. We opted to replace the seal retainer all around the bonnet opening because rust is always trapped in this area. Remember the copper weld-through primer, okay?

^ Some chump had drilled two holes for a dual-mount aerial, which needed welding up. To do this we cut out two metal discs to fill the holes, and then ground the welds down to make the repairs flush. Go carefully here, this area is easy to warp.

< Note the lighter patch of lead work at the bottom of the picture. This is a great way to deal with pitting and imperfections, as you will see over on the next page

> Next job was to mock up the wings and bonnet, making sure all gaps are correct and that the bonnet opens and shuts as it should. The wing in the photo was a second hand original Split one we picked up from a friend. It needed a little metal repair in the headlight bowl, and had some dents and damage we needed to put right, but it was a great start

< As the damage wasn't too extensive, we re-shaped the wing on the car using a hammer and dolly and then had it media blasted inside and out before starting on the headlight bowl repair

1950 Split Bug

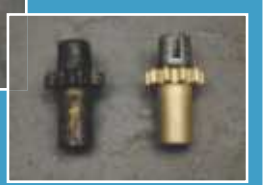
^ > v Early Beetles have a metal headlight wiring tube that goes from the bottom of the headlight bowl to the inner wing. The one on our genuine wing had rotted out (a common problem) and the bowl needed a localised repair

^ Removing the engine lid support panel is a lot of extra work, but it's the only way to access the area behind the air intakes and achieve the highest standard of restoration here

^ Here's the panel removed from the car. Shot blasting showed up a few rust pin holes on the inner side, which we welded up before detailing the panel in readiness for re-fitting once it has been painted. With this removed, we were also able to access the internal area beneath the rear windows and ensure all rust issues are dealt with

Small is beautiful

The body may be the biggest bit, but it's just one part of the project. There are many, many other smaller parts that require refurbishment. We put these brake backing plates through the blast cabinet, prior to sending them out for powder coating. This is a dull and dirty job, but also a rewarding one, as you can see from the before and after photos



As we've said before, we're trying to re-use as much of the original car as possible, and you know what they say – nothing fits as well as the original VW parts. Even small pieces like the star adjusters clean up a treat!

Door latches and mechanisms also getting the blast clean treatment. Don't they look better?

Trinket pimp

^ Semaphores were one of the parts we were struggling to find as good, early ribbed ones are far from common. In the end, we bit the bullet and bought these September 1950 stamped ones from Bob at BBT in Belgium. They're perfect for our October 1950-built Bug but, as anyone who has tried to source a pair of these in this condition will know, they cost about the same as a family holiday somewhere hot!

> We've gone a bit radical here. Pope's noses aren't usually chromed, and are definitely an acquired taste when they are, but I think this will look awesome against the car's original colour of Bordeaux Red. Besides, it's in great condition and, if it doesn't look the bomb, we always have the option of stripping and painting it

< Moving back to the front of the car, the scuttle panel needed a little repair. It's not the easiest place to repair, but we were spurred on by the fact this is the last piece of metal fabrication work the body needs

^ And here's the scuttle panel repaired and the bonnet – now stripped of paint – fitted in place. A little shaping up on the bonnet, setting the gaps and the body metalwork will be finished

^ And here's the bonnet gap looking spot on. It's always best to mock everything up and gap it right before you move onto the paintwork stage. It's much easier to remedy any problems now than when panels are painted

^ Finally, there were a couple of jobs left to complete inside the car. At the beginning of the restoration we removed the heater boxes, had them shot blasted and renewed the heater pipe through to the engine bay. Now they have been welded back into place, completing work to this area

^ Round horn grilles are a Deluxe Split Bug-only feature. The nearside wing has a hole all the way through, and the horn sits behind. The offside wing has these four little slots for the tabs that hold the grille in place. One for form, the other for function. Don't you just love symmetry? Had we been restoring a Standard Split, we could have saved money here as they don't have these, instead having the horn mounted externally

> And talking of symmetry, here's my favourite view of any Split Bug – looking through the rear window at the awesome symmetrical dash

^ The last job on the body was to fit the inspection hatch cover in the rear luggage deck and spot weld in the strengthening u-sections on both sides. Even though making the new luggage deck was easily the most time consuming part of the restoration so far, we're still really pleased how it turned out, and it now looks like it's never been changed

Lead loading / body soldering

Over the years, most automotive body repair methods have been replaced with quicker, easier (read: cheaper) ways of doing things. Lead loading, or body soldering as it is otherwise known, was replaced with polyester filler about 40 years ago. 'Filler' is safer, easier to use and doesn't require any special tools or skill to achieve a good dent repair. As with most things in life, though, the easiest ways are not always the best, or most rewarding, and, while there's nothing wrong with filler when applied properly, it's no match for the old school method of lead loading.

Lead loading was mainly used when cars were built to cover body seam joints where flex could crack paintwork. Or to repair minor damage that occurred during manufacture. It has also been used by car customisers since the industry began.

We are covering the process here because it's something we use on most of our restorations at some point, whether it's to help avoid panel flex on weld joins, cover pitting from corrosion or dents that can't be pulled out like in a window post or similar. So here's a little step-by-step.

Tools of the trade

These are the tools required. The grey matter is tinning paste, which is used as a flux to make the lead / body solder adhere to the metal. The white matter is wax, used on the wooden paddles to stop the lead sticking to the paddle. Then there is a lead stick and a number of lead-free body solder rods – more commonly used these days for health and safety reasons – and at the bottom an adjustable body file that can be shaped to the panel, used for filing down the lead after it's applied.

NB: A side benefit of lead-free soldering sticks is they work at a slightly lower temperature, so there's less chance of warping the panel with heat from the blow torch

1

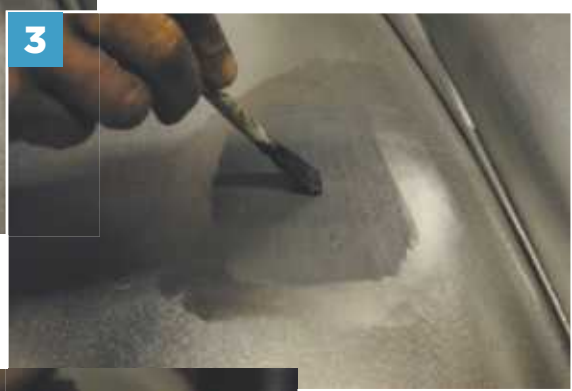
^ This is a typical situation when we would use body solder. The top of this wing is sound, but there's some pitting around the small depression evident in the middle of this shot

2

> The first stage in preparing for lead work is to thoroughly clean the area to remove any rust or dirt from the base of the pitting. We use a brass wire wheel to clean deep into the area. The pitting is now much more obvious

v First, the tinning paste is painted over the area with a brush. This will assist the lead / solder to adhere to the metal

3



4

^ Then the paste is heated with a blow torch, which removes the moisture and turns the paste into a metallic base

5

< Working fairly quickly, the area is gently rubbed with a wire wool pad while it is still hot. It will turn a shiny, silvery colour at this stage, and ensures the area is devoid of any unwanted residue that will interfere with your lead work

Next month

We will check in on progress at the bodyshop, as well as bringing you an update on the engine and gearbox rebuilds

< Next, warm the panel again with the blow torch and start applying the lead / solder. This is the tricky part. Too much heat will warp the panel and the solder will run off without adhering to the metal, especially on a curved area such as this. Too little heat and it won't melt or stick. Always apply slightly more lead / solder than needed as you want to be able to move it around with ease

> Plenty of body solder / lead here to work with. If it cools down too much, you can gently re-heat it with the blow torch, but go carefully

^ While the body solder is hot, it is spread across the work piece using a wooden paddle dipped in tallow to stop the solder sticking to the wood. The lead / solder should be the consistency of peanut butter (smooth, not crunchy!) at this stage for ideal spreadability

> "The lead / solder should be the consistency of peanut butter (smooth, not crunchy!)"

^ When it has cooled and dried solid, the body file is used to do the initial shaping. Note how the file has been adjusted to conform to the panel shape. After a couple of minutes of filing, the lead / solder is almost to the shape of the panel

< Lead is much softer than steel so as the piece is being filed, the lead is removed but the panel around it should be barely scuffed

> Orbital sanding lead is a big no no as the dust created is highly toxic. This is another reason we generally use lead-free soldering sticks, but you should still wear a good quality mask when sanding

Finally, when you've finished working on the area and you're happy with the result, you need to clean up. This may not sound important but, if you don't clean the area around where you have been applying lead / body solder, you will find the metal covered in red surface rust the following morning. We recommend cleaning the surrounding area thoroughly with a high quality panel wipe or thinners. Job done

If you fancy giving this process a try, practice on something you are prepared to throw away first! And when you're finished, leave it for 24 hours to check for any rusting or oxidisation that may occur before painting.

Good luck.

Juggling act

Part 7. After a solid four month's metalwork, the body has finally left the building. While that's away being painted, it's time to catch up with some of the other crucial parts of the project

Words and photos Lloyd Jackson

> The body arrived at Spike's Vintage Restorations safely and was immediately set up on a trolley, in readiness for body prep and paint.

I think of a restoration like this as a relay race, and we've now passed the baton to Spike and his crew. Normally, you'd have to pay a deposit and wait around six to 12 months for a slot as they're so booked up, but these guys know the score with this job and have just six weeks to turn it around for us. The pressure is definitely on, but Spike's dedicated team are working out of hours for us, grafting every evening, weekend and throwing in loads of early morning starts to ready the body for a few coats of their famous 'mile deep paint'

< At last, the body is ready to leave Deluxe HQ. There will always be more you could do in search of perfection, but with the tight timescale we're working to, we've done all we can. Time for someone else to take over…

^ Fortunately, we have access to an enclosed trailer, which is very useful when transporting precious and vulnerable vehicles. This pic was taken in December, and wet weather conditions can destroy hours of hard work in very short order

> We dropped the body at Spike's late on a Thursday afternoon and late that night the guys applied some Würth rust convertor to the pitted areas of the body. These areas have been kept clean since blasting but are prone to rust again if not treated before the paint process, so this is a necessary precautionary measure

^ By Friday evening, the body had already had its first coat of primer! We opted for a marine grade epoxy primer and had it tinted red as this will give extra depth and a richer colour when the final Bordeaux Red paint is laid on top. This is a non-porous primer and seals the metalwork underneath, so all further body prep can now be done knowing the metal is safe and sealed below. As an added bonus, any future chips in the paintwork won't be as obvious because the primer is a similar colour to the top coat

< It's amazing how a coat of paint can transform the look of a car, especially when you consider what we started with. Just seeing some colour on the body gets us excited, though there's a long way to go from here.

In the next instalment we will bring you more about the paint process, and explain a little more of what the guys at Spike's Vintage Restorations have been up to

'Boxing day

Meanwhile, over in North West London, another part of the project is taking shape. We sent our original, matching numbers crash 'box to gearbox guru Pete Englezos at Cogbox (www.cogboxtransmissions.com) to strip and rebuild. This was a worry as so far everything on the 66-year-old car has been totally knackered, or needing major refurb.

But knowing Pete can rebuild any 'box with his eyes closed gave us confidence that he could sort ours. We were just concerned how many parts would need replacing and how much it was going to cost. Like everything on this build, parts for Split gearboxes don't come cheap.

So we left it with Pete and waited patiently for the 'phone call. Every time the 'phone rang we hoped it was Pete, and we hoped it would be good news…

After a few days, Pete rang. Now Pete has a real interest in early VWs so initially, he wanted to know how we were getting on with the rest of the build. Of course I was polite and happy to fill him in about the metalwork stage, all the while desperate to ask him what the internals of the gearbox were like!

Waiting my turn in the conversation, I eventually asked the vital question: "Is it fucked mate?" There was a pause that seemed like an eternity but his answer was not what we were expecting: "Surprisingly, the internals are in amazing shape, and all it needs is new bearings and seals." I could have fallen off my chair.

I knew we'd need to spend on the rebuild but, until we knew what it needed, there was no way of budgeting, so this was great news. Especially as it's the only part of the project so far that has been easy and not cost a fortune. Happy days

Amazingly, considering the car appeared to have lived in a swamp at some point, the internals of our gearbox are in fantastic order. The teeth are all in perfect condition, which is very unusual in a crash 'box with no synchromesh as it takes some skill to double de-clutch when changing down without crunching the gears. Do that too often and it chips corners off the teeth. I guess the previous drivers of this Split were skilled, it's just a shame the rest of the car hadn't been as well looked after!

Unlike later 'tunnel' 'boxes, these early gearboxes are split case, and here are the two halves ready to go to be media blasted

To be fair, compared to some parts of the car, the gearbox was in pretty good nick, but it's still lovely to see the freshly media blasted case halves, ready to be detailed and then rebuilt. More on this next time

NOS – nice old stuff

Back to metal for a moment. Our original engine lid was beaten up, so we've sourced a really nice lid from a friend and had it media blasted. This was the last piece of the body puzzle and will be joining the rest of the panels at the paint shop. Thanks Nathan Cole for your help here

More new old stock parts we have sourced, this time rear light housings, lenses, bulb holders and lens clips. The lenses are Hella glass ones with the logo in the centre. Pure tail light porn

Inner beauty

Every part of any good restoration relies on finding the right people for the right job. They must be passionate about what they do, with extensive experience and knowledge – perfectionists in their field if you will.

We want the interior of our Split to be totally factory correct, so we set about looking for a trimmer to make this happen. It was a friend who suggested I contact Lenny Copp at West Coast Classic Restoration in LA (www.classicvws.com), world famous for producing some of the finest period correct interiors for VWs. At first I was sceptical, preferring to try and find someone in the UK because of the timescale, but I gave Lenny a call to discuss the build and see if he had any advice. After that one call I was convinced he was the guy for the job.

Because we can't take the car to Lenny (obviously!) we asked if he could make all the interior parts for us so we could use a trimmer in the UK to fit it all. Thankfully, he agreed. Here's an example of one of Lenny's original-style Split Bug interiors. Lovely, isn't it?

The correct material was sourced from Marcus Raeke in Germany, and sent over to Lenny in Los Angeles

> "Every part of any good restoration relies on finding the right people for the right job"

The Loch Ness motor...

We've shown you this before, but now we're in a position to bring you a more detailed report on the rebuild of our matching numbers 25-horse engine. If you remember, Stefan Rossi at Aircooled Engineering (www.ace-vw.com) is undertaking the rebuild, and sadly this time that first 'phone call didn't bring good news. Over to Stefan…

"After receiving the engine from the guys at Deluxe Metalwork, Pete and I looked at the motor and thought, yeah, that looks pretty crusty but as we've done a few 'barn find' 30-horse engine builds before, this wouldn't be a problem.

"But… this is by far the worst engine we have ever had in the shop!"

Rear seat pillows, or bolster cushions, are a nice touch of class to a Split Beetle

That's not Lenny in the picture but it is our interior coming together on the bench. Exciting stuff.

Something else we had to think about is getting the interior safely back here. Luckily, a couple of friends had booked a holiday to Vegas and, after a few persuasive beers, they agreed to bring it home for us but we still had to find a way of getting it from LA to Vegas, and this is where the power of facebook helped out – a friend in LA, Rolando Alvarado, offered to pick it up from Lenny and drive it to Vegas to meet up with our two friends. What a star! And that is what is happening as I write this – Shaun Howe and John Bussell have just arrived in Vegas and Rolando is on his way from LA with the precious cargo to meet them. Thanks guys, you rock!

Happy the new seat covers are on their way, we turned our attention to the original seats…

First job was to strip them and send the frames out for media blasting. They look bad, but they should clean up okay – we hope. From the blasters, they'll go straight to the paint shop for a fresh coat of paint in readiness for the new trim

1950 Split Bug

"It was seized solid and it didn't matter how much heat and pulling we tried, none of the parts would come off. The heads were seized onto the barrels and the barrels seized into the case, so we were left with no choice but to cut the heads off.

"This isn't the way we wanted this rebuild to go, but we had no option. The most important part to salvage is the matching numbers case, which has been with the car for the last 66 years, so we cut the heads off in sections, making sure not to damage the head bolts in doing so."

> "This is by far the worst engine we have ever had in the shop!"

"Once the heads were cut off, we found we had to do the same with the barrels and pistons. This isn't something we enjoyed doing as we know getting hold of 25-horse motor parts isn't easy."

"So the top end of the engine, bar the rockers, is scrap. We now focussed on saving the more important bits like the crankshaft and rods, which meant opening the case…

"Inside, we found huge clumps of mud, a very rusty crank that was seized to the main journals and some very rusty con rods that – surprisingly – weren't seized onto the crank."

Next month

More paintwork, plus further updates on the engine and gearbox rebuilds. News too on Lloyd's quest to source period correct parts for the project…

> "The case, crankshaft and rods have now been sitting in our ultra-sonic cleaner for a couple of days. Hopefully, this will break away most of the heavy gunk and mud in the case. We will then have the case vapour blasted to see where we stand."

On the upside, we've since heard from Stefan that they found nice, clean big end bearing journals once they'd removed the rods, so it's not all bad news. The crank will be crack tested and, provided it's okay, will have a re-grind to remove any imperfections, the con rods will be match weighted and have their little ends re-bushed. The valvetrain will be mostly NOS, or aftermarket Okrasa parts, so it ain't going to be cheap!

Huge thanks to Stefan and Pete at Aircooled Engineering for all their help. If you are in need of some VW or air-cooled Porsche engine work, either high performance or stock, contact stef@ace-vw.com

^ < Meanwhile, we set to locating some of the 25-horse engine parts we need. It was our luck that another friend, Darren Medland, had some good second hand spares at Marco de Waal's place in The Netherlands. Marco was kind enough to bring these to the UK for us when he was visiting a few weeks ago – cheers buddy, always good to see you

^ We've also picked up this super nice, period correct distributor. We've still a few more pieces to find, but the engine jigsaw is slowly coming together

Race against time

Part 8. With parts now being painted, the whole project is coming together, but we're still an awful long way from the finish line, and time is running out fast

Words and photos Lloyd Jackson

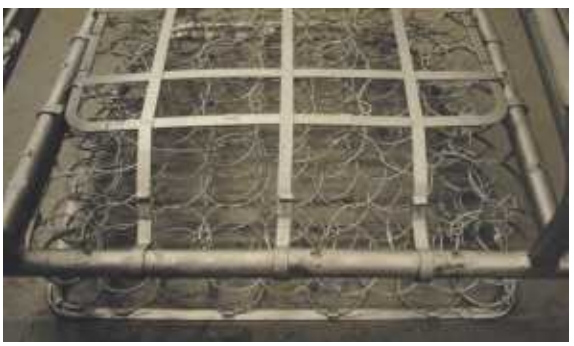
With the coming of the new year, the countdown to The *VolksWorld* Show has really started now. As I write this, the Bug's debut is just 10 weeks away, so there is no window for error. We need to make sure every detail is in place, from the engine build to paintwork, from chassis restoration to the interior. The list goes on…

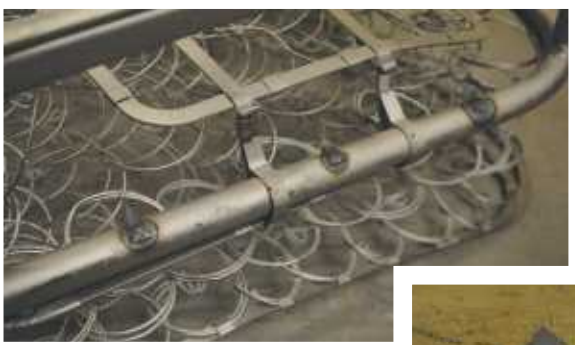
At this point, nearly everything is covered, but nothing is quite finished, and there's still so much to do. It's going to be tight to finish on time, and it's hard to shake the underlying feeling of concern that something could still go wrong, even if it's just parts not arriving on time. Fortunately, we have a few different bases covered for the next four weeks, so there's no slowing us down just yet.

This month has been busy, and with Christmas and New Year festivities over, we've turned our attention to the floorpan, both preparing it for paint and ensuring all the parts that need to go for bright zinc plating have been media basted and dull polished first.

While we've been busy doing this, the guys at Spike's Vintage Restorations have been putting in late nights and working weekends to prep the body ready for paint, and that's all coming along nicely.

Meanwhile, Pete at Cog Box has finished the rebuild of our split case crash gearbox, and that is ready for collection. Once the painted axle tubes have been fitted, that will be the first big piece of the jigsaw ready to go back in. Things should then pick up pace from there.





< v You can't really repair these as the thin metal quickly fatigues, so we removed them all and cut new ones from sheet steel and welded them into place. This will make trimming the seats a lot easier

^ Last month we left you with the seats stripped and the frames media blasted. Generally, the seat frames were in okay condition, but the metal tangs that hold the material in place had seen better days…

< All cleaned up and ready for paint. If you ever have seat frames powder coated, make sure that they are baked at no higher than 180degC. Any higher and you risk damaging the steel springs, ruining a good seat. In other words, your springs won't be springy any more!

With the seat frames repaired, we are ready to fit the seat runners to our new floorpans. We took measurements from what was left of the old pans, marked out the position and sprayed with copper weld-through primer where the seat runners will go

The new seat runners were spot welded for a factory finish

All the repairs to the chassis have now been carried out, so it's ready for paint. This can be as easy as brushing on some chassis black, or very time consuming, depending on how you want to go about it (see box out below). Of course, we opted for option 3, despite being tight on time. Not much sense in it really, but we are bonkers and felt that with everything else on the car having such a high standard of detail and work, we couldn't do anything but go the whole hog!

READY FOR PAINT?
The options

Option 1 – powder coat

A quick and cost effective way to get the job done. Looks great too, but requires the 'pan be meticulously cleaned of any old grease residue that could leak out during the heating process and ruin the paint finish

Option 2 – wet paint

A lot more labour intensive, this involves lots of different paint stages, with laborious rubbing down in between each. It's easier to hide imperfections, but will only look good if you put in a lot of effort

Option 3 – wet paint, show standard

Same as above, but add in even more effort. Typically, a Beetle floorpan will consume some 40-50 hours of prep, even before starting the four stages of paint. Even at an unlikely labour rate of £25 per hour, those hours soon add up

First stage of chassis prep is epoxy primer. We used a tinted, marine-grade epoxy that offers fantastic etch and anti-corrosion properties. Immediately, you can see how straight our floorpan is. One that has original 'pan halves will require a lot more work at the next stage

After rubbing the epoxy primer down, we went round and did a little filler work on the pitted areas of the chassis. This is the really labour intensive part, but it's what you have to do if you want perfection

> "any good restoration should have every part detailed, whether you can see them in the finished car or not"

1950 Split Bug

Next, we used a high build polyester primer, which is a spray filler that helps take out any last imperfections. Polyester primer is very porous, which is not an ideal surface to apply top coat to so, after a rub down with 320-grit paper, a standard high-build primer was applied to seal the polyester primer. This was tinted black, again for added depth and to reduce the chance of anything showing through the top coat. It will also be more forgiving of any stone chips that may occur in the future

After the black high-build primer was applied, it was painstakingly rubbed down for the final time with 400-grit paper to achieve a perfect smooth finish prior to top coating. We made a very simple frame that attaches through the framehead bolts and rear shock mounts so we could rotate the 'pan to paint both sides. You can hang a chassis on its side to paint it but there's more chance of runs and it's difficult to get paint in all the nooks and crannies. The chassis sitting flat is how the eye will view it once the car is built, so it makes sense to apply paint from this view

After about 40 hours of hard graft, the chassis is ready for its first coat of paint. We handed it over to a good friend of ours, Sonny Bayly, who used a high end Sata gun for the glory job of applying paint to this beautifully prepped chassis. We opted to apply base and clear lacquer, as opposed to a direct gloss paint. Mainly because direct gloss marks very easily and, when you polish any marks out, it thins the paint and affects the pigmentation in those areas. Having the lacquer over the paint means you have a separate layer to work on that will not affect the colour

> "We opted to apply base and clear lacquer, as opposed to a direct gloss paint"

Once the three coats of jet black base coat had cured, it was time to lay down some lacquer. At this point, that entire week of hard work rubbing the floorpan down starts to pay off

After two coats of lacquer, the depth of paint started to look awesome, but we gave it one last coat to give it that liquid look!

We also prepped and painted the short axle tubes while we were at it, so they were ready to take to Pete at Cog Box to fit up to our rebuilt gearbox.

After six months of hard work, it's at this stage you start to see it all pay off. The floorpan looks amazing, and we're looking forward to building it up with more nice, shiny painted and coated parts in the weeks to come

Back to the mundane stuff first though. The window mechanisms looked pretty ropey but, after some time in the media blast cabinet, they looked like new. We checked all the teeth on the cogs and bushes were good, and then sent these out for electro bright zinc plating to give them some protection once mounted in the door. You could paint them, but that doesn't look as good as bright zinc, even though you'll never see them again

We also stripped and media blasted the pedal assembly. Some of these parts will be powder coated, others bright zinc plated

As you'll see it when you open the bonnet, the wiper motor is going to get the full detail treatment. It looks pretty shabby now, but a few hours hard graft and some paint and zinc plating and it will be another highly detailed, and properly functioning, part ready for the rebuild

ACCEPT NO SUBSTITUTE

A good restoration is about detail, and making sure every part of a car, no matter how small, or whether it can be seen in the finished car or not, is thoroughly checked for working order, cleaned and refurbished to a standard that is as good as new. In some cases, it may be quicker to buy replacement parts but, if NOS isn't an option, repro parts generally are no substitute for the originals, so it's often better to spend some extra time rebuilding what you have, remembering at all times the motto, old is gold!

Yeah, radical. We know. We looked at a lot of brake set ups and stud patterns for wheel choice and, in the end, decided to roll with a late Bug disc set up with Porsche 5 x 130 stud pattern, on link pin dropped spindles, and then use aftermarket Wilwood 4-pot calipers. This may seem a little excessive with a stock 25-horse motor, but good brakes and steering will just make the drive so much nicer. Plus they look cool as anything

This is just a selection of the parts we've media blasted and then wire wheeled in readiness for bright zinc plating. Put in the effort at this stage and these parts will come back from plating looking a million dollars

We've amassed 100 separate parts in total for the platers, enough to get us started on the chassis and engine build up. As you can see, we are trying to re-use as many original parts as possible

1950 Split Bug

A word on paint

Over the space of four weeks of evenings and weekends, the guys at Spike's Vintage Restorations have taken apart and put back together the body and all its bolt-on panels no less than five times. Every part of any restoration has its highs and lows, and the guys have battled on, working overtime to get this body painted for us.

At times, I know this car has been what can only be described as a right pain in the arse! From cuts and the odd gash across the hand, to working when feeling lousy with a serious cold (that it seems everyone involved has had over Christmas), all the while knowing that more late nights and more weekends need to be put in to get the job done can bring even the best of us down.

But then there's that sweet moment when the paint goes on and you see all the hard work pay off. The sharp lines, even gaps and all the detail work put in underneath suddenly start to shine through. Obviously, like anything in life, you get out what you put in, and with this car we wanted every square inch to be amazing, including the places no one will even see. Some might say that's going too far, but we believe that's the level of detail required of a top show car these days.

There's around 200 hours in the body and panel prep so far and there's still a lot left to do. So, if you are wondering why, or how, a high end paint job costs so much these days, consider this: paintwork to this level of detail on a Bug can take up to 400 hours, on a Bus, it can take up to 1,000 hours!

All the team at Spike's have worked so hard to get to the stage you see here, and we really can't thank them enough for their skilled work and dedication. So, Andy Finch, Chris Neck, Joe Stevens and Jay Stacey, we really appreciate you getting this done for us. Cheers guys, you rock!

Trusted supplier

It goes without saying you need a good painter to achieve a nice paint job, but you also need to use good products, and finding a trusted supplier is as important as any part of the process.

There are lots of paint supply companies around, some more expensive than others, but we have found one in particular to be both helpful and knowledgeable in the whole process. Both Deluxe Metalworks and Spike's Vintage Restorations only use CARS in Ipswich for all our paints and sundries.

> "the best products for the applications"

On this build, the company has given us huge support, supplying everything from weld-through copper primer to masking tape, grinding discs, tinted high-build primer, basecoat and lacquer. In fact, just about every paint and sundry product we've used. CARS' knowledge and product range is the best by far in the area we work in, and the help and support we have had on this project has given us great confidence that we are obtaining the best products for the applications. This doesn't mean selling us the most expensive products available, it means selling us the right products.

For more information, see www.carspaints.com or call CARS Ipswich (01473 464466); CARS Canvey (01268 510136); CARS Dagenham (020 8592 6300); CARS Latchingdon (01621 742500)

In photo format it doesn't look like a lot of work, but let me assure you that preparing a body for the perfect paint job is no easy task. Firstly, when shaping up (carrying out any filler work that needs doing) the body, the doors, wings, bonnet and engine lid all need to be fitted. And not just bolted on, they need door rubbers, latches and catches to ensure perfect alignment and body lines. They are then all taken apart for internal prep, then repeatedly re-fitted and re-checked before any paint is applied. It's time consuming work, but essential if you want continuity in gaps and well fitting openers that won't chip your paint when opening and closing

Next month

Those seats meet their new trim, while work continues on the engine and the rest of the components as the race to get the project finished in time for The *VolksWorld* Show in March reaches fever pitch

Pete at Cog Box has been busy on the gearbox rebuild. We were all amazed to find the internals were in great shape and could be re-used, with nothing more than new bearings and seals. Everything has been stripped, cleaned and meticulously re-assembled. This is going to be one smooth 'box

It gives great peace of mind knowing every part of this rebuild has been gone through with a fine-tooth comb. It's not the cheapest, or quickest, way of doing the job but it's the only way to ensure the driving experience is as good as when the car first left the factory

And here's the completed 'box, awaiting the freshly painted axle tubes we showed you on the previous page. When we go to collect the gearbox, we will take the tubes with us and drink tea while Pete installs them for us at his workshop

The journey so far...

Part 1 – To the rescue
Lloyd sees the 1950 Beetle on eBay and decides to give it a punt – mainly because it was so complete and all still matching numbers. It's not until it arrives at Deluxe's Suffolk workshop that he realises just how bad it is

Part 2 – Revealing the rust
The 'shell is media blasted to reveal the extent of the corrosion. The underside of the chassis spine is unpicked and the first metal repairs to the floorpan get underway

Part 3 – Metal magic
Top quality replacement panels are obtained from all over the world and Lloyd begins to work his metalwork magic, replacing the bumper hangers, inner wings and lower three quarter panels. The Split's original engine is sent to Stefan Rossi at Aircooled Engineering to be assessed

Part 4 – Make, not mend
With no body cut available in the time frame, Lloyd has no option but to custom make a replacement luggage panel from scratch. Meanwhile, he continues work on the front inner wings, the a-post inner frames, engine bay side trays and front valance

Part 5 – 70% proof
As the last bits of bodywork are attended to, attention turns to some of the mechanical aspects of the build, including the steering box, carburettor and a four-inch narrowed Dog Back Performance air beam

Part 6 – Full metal jacket
Four months in and still on bodywork repairs. Lloyd demonstrates the art of lead loading / body soldering in his quest for blemish-free metalwork

Part 7 – Juggling act
The body's finally prepped for its first coat of primer. While that's happening, Pete Englezos at Cogbox delves into the car's gearbox, and material for the re-trim is acquired in Germany, then taken to West Coast Classic Restoration in California. At this point, Lloyd discovers just how bad the engine is as Stefan Rossi has to cut the seized heads off

All that shines...

Part 9. With the body now in paint, there's light at the end of the tunnel. We just wish the tunnel was a bit shorter, and we had a bit more time...

Words and photos Lloyd Jackson

Tick-tock, the clock never stops. At the time of writing this, there are just 33 days, or 792 hours, or 47,520 minutes, until we need to have the Split Bug in place at The *VolksWorld* Show. As such, the pressure to make the most of every hour in every day increases with each tick of the clock.

In an ideal world, we'd like to have this build finished a week before the show in order that we can test drive it but, as most people who have ever built a show car with a deadline for a particular show will know, it always goes to the wire. Last year, to get our hand-built Country Buggy finished, we worked the last 48 hours up to The *VolksWorld* Show straight, and enlisted the help of as many friends as we could muster to ensure we made it to the finish on time. Mind you, we only gave ourselves nine weeks from start to finish for that one, so we only really had ourselves to blame!

With the Split, we thought we had given ourselves a more realistic time frame, but it's still going to be tight, and there will continue to be many early starts and late nights for everyone involved.

It's around this time that the show organisers start to get really nervous about cars that are booked in but not yet finished, worrying they might not be finished in time, leaving an unwanted space in a show that could have been filled by another car. We like to keep them on their toes!

Because of all the coverage it has had in the magazine, though, with this car we are prepared to beg, steal and borrow whatever necessary to make sure it is finished and (hopefully…) on one of the turntables at this year's show. Let's just say we're looking forward to that moment, and then having a few well-deserved beers!

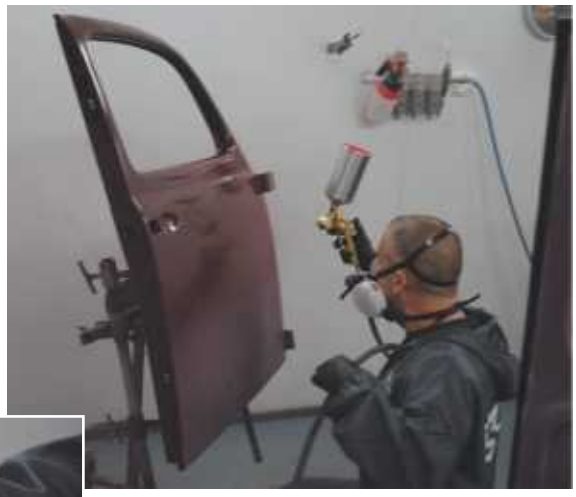
Anyway, back to progress. It's been a busy month for everyone involved. Spike's Vintage Restorations has been flat out laying down some of its famous mile-deep paint and Aircooled Engineering has been busy building up the matching numbers engine, but I need to introduce another player in the game this month. Remember I said I needed to find someone to fit the seat covers we'd had made in the States? Well, I found that man in Rob O'Rourke, of O'Rourke Coachtrimmers in Rudgwick, West Sussex.

Back at Deluxe HQ, we've been busy building up the chassis and ensuring everything is in place for the final big push to get this thing finished. ■

After what seems like 1,000 hours of prep work, the body and panels are now in paint! This is the most exciting stage to reach in any project, but it's taken a heck of a lot of work to get to this point

When we dropped the bare metal body off at Spike's and went through it with the guys, we said we wanted every part to be painted to show standard, even if it will never be seen, or be covered with trim. That sort of attention to detail is very demanding of any paint shop, but was all the more so considering the very short timescale we gave them.

For protection, the 'shell was first painted with a tinted epoxy primer, then the filler work was carried out and rubbed down before everything was painted again with a tinted high-build primer. Only then could the laborious task of rubbing down again in preparation for top coats begin



^ As you can see, every area of this car got the full show prep and paint treatment.

The guys at Spike's kept us regularly updated on progress and we trusted them completely to do what we asked, which gave us the freedom to concentrate on what we needed to get done on the rest of the project. Our top tip to keeping to a tight deadline is use these guys for your paintwork!

^ After all the prep work, here's Spike laying on the first colour base coat. This is when all the hard work starts to pay off, and when you see just how straight the panels are.

< Andy is meticulous about his equipment and broke out the big gun for this job – his top drawer, gold-plated Sata spray gun

v It's no good having the best spray gun in the world if you don't treat your materials properly as well. Here the paint is being passed through a 190-micron filter to remove any dust or particles that could ruin the final finish

> And here's Andy applying the second coat of base to the body. One more coat, and then it'll be time to lay down the lacquer

v It looked good in base coat, but it was only after the first coat of lacquer that the colour really started to pop

^ Massive thanks to the guys at Spike's Vintage Restorations: Andy Finch (centre), Joe Stevens (left), Chris Neck (right) and Jay Stacey (not in picture)

1950 Split Bug

The whole 'shell and all the bolt-on panels received three coats of lacquer, too. This shot was taken after the first polish. As you can see from the reflections, the finish is flawless. If you're into numbers, there is 16 hours in the top coat, lacquer and polish stages alone

Look at this pic, and then compare it to the one at the bottom of the previous page. Bordeaux Red is one of those colours that looks totally different depending on the light conditions. It ranges from dark red / brown to almost Garnet Red. I'm just so happy this was the original colour of the car as, in my opinion, it's the best early Beetle colour of all

Though a bare body looks awesome painted and polished, it really starts to come alive when you begin fitting it up with restored parts. The first parts to go on were these Huf door handles, which Desi Yates rebuilt for us using new old stock locks and barrels and a new old stock Huf key, correct for the year

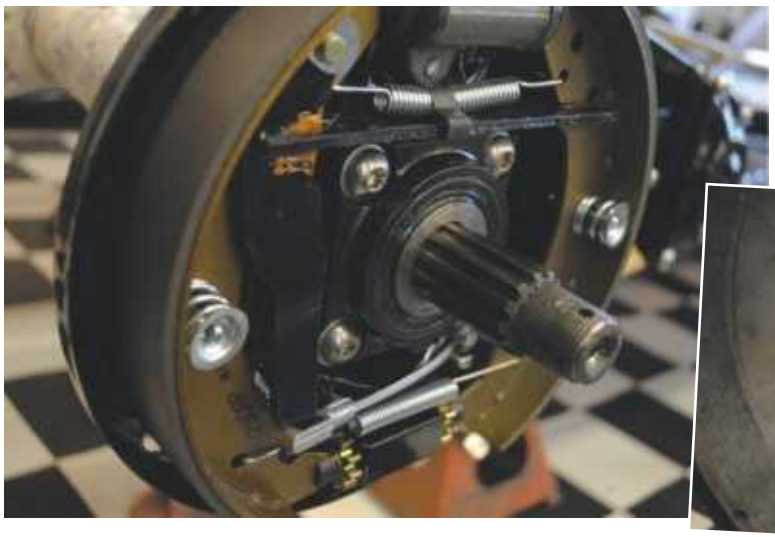
Enough of the body though, back to the chassis. We've been busy detailing parts in readiness for final fit up. As mentioned last month, we opted to use a late disc brake set up and Wilwood calipers up front. As this isn't an off-the-shelf kit, it meant we needed to make some custom caliper adaptor brackets, which was a fairly time-consuming task. To ensure maximum paint coverage, we had our whole discs powder coated and then machined off the powder coat in just the areas where the brake pads contact. This way we won't have any bare metal to go rusty and they'll be easy to keep clean

Because the front wheels move forward in relation to the wings on a radically lowered Bug, we are using some lengthened control arms from a good friend in the States, Chase Hill (cage66). These move the front wheels rearwards so they sit in the centre of the front wings. It will also help avoid the tyres rubbing on the backs of the headlight bowls.

Before they were painted, we added a little mod of own – capping the holes where the torsion bars fit for a cleaner look to our suspension

< Another neat modification on an early Bug is to use a late dual circuit master cylinder. Firstly, these are ready available. Secondly, they offer better braking potential than the original single circuit master cylinder. Thirdly, you can use one of these direct-mount reservoirs, so no extra pipe work and a cleaner under-bonnet area

> To work with the front brake upgrade, we opted to improve the rear brakes as well. This time we used stock late Bug internals with late drums drilled with a 5 x 130 (Porsche) stud pattern. Don't worry, we've kept all the stock brake parts so it can all be put back to stock if we ever want to



v With the rebuilt and detailed gearbox mounted in the chassis, we fitted a new old stock clutch release bearing

> The DogBack Performance air bag beam was also painted and detailed before being fitted

v Front brakes and suspension complete. Note the use of matching stainless, button head, Allen-key bolts wherever possible. If you're wondering about that rose joint, it will all become clear in due course

v In our mind, there were only two choices for wheels. I think we've made the right one…

1950 Split Bug

^ The chassis is about 85% built up at this point, but already it's looking wild. The only things left to do are fit front and rear shocks, a new 'pan-to-body seal, steering box and make a single, straight bar steering link to eradicate bump steer (we'll come back to this in the next issue)

^ Though it may look like everything is being painted either black or Bordeaux Red, there's some additional colour being added with the handbrake lever, gear shifter, steering column and seat frames, all of which have been colour matched to the original L71 Beige paint

> One of the other important parts to our restoration is the interior. We had Lenny Copp at West Coast Classic Restoration in the States make our seat covers, door cards, carpets and headliner, but then had to find a good trimmer in the UK to fit the seat covers to our restored seat frames. An old friend put us onto vintage Ferrari trimmer extraordinaire, 'Rorky' from O'Rourke Coachtrimmers in West Sussex. Although fitting seat covers is not the kind of job he normally takes on (check out www.coachtrimmers.com to see what they get up to), he knew about our project and agreed to help us out

v Although it's not a stock feature, Rorky recommended covering the seat bases first to stop the horse hair pads dropping little fragments over the carpets

< He might work on Ferraris for a living, but his mum still doesn't feed him properly, so when he saw the original, 66-year-old horse hair padding, Rorky couldn't resist taking a bite. We decided to re-use these as they were in decent condition and any of the newer versions of this material just wouldn't have the same 'feel'

^ Next, a little foam was added to help pad out the seat covers. Note how it has been cut in the same pattern as the seat covers so there is nothing to interrupt the smooth lines

^ And here's one of the front seat bases with the new cover fitted. You might think fitting seat covers is easy, but getting them to fit this well and look this good most certainly isn't

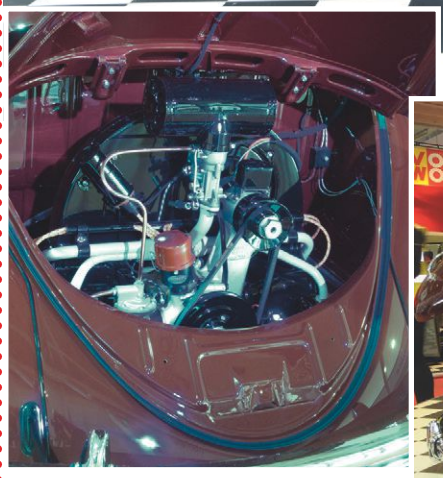
> v Nearly finished – just the backing board and luggage rails to fit to the rear seat. At this point Rorky still wasn't quite happy and so did a little further tweaking to make sure the covers are nice and tight all round, and the stitch and piping lines are perfectly straight. Yep, he was the right man for our job!

"the pressure to make the most of every hour in every day increases with each tick of the clock"

< Finally, to really get us fired up, we rolled out some *VolksWorld* Show black and white check flooring and added the tunnel carpet and beige rubber floor mats to the 'pan. Things are coming along nicely, but we've still got plenty of difficult bits to do before the car is ready to make its debut at Sandown. We'll see you there…

Best of show

Picture by James Wallace



If you've ever carried out restoration work yourself you'll know first hand just how much skill and effort it takes to get a decent finish, let alone one that comes anywhere near show car standard. Which makes the quality of the show cars on display at Sandown even more awe-inspiring. A team of expert judges, managed this year by our very own Ivan McCutcheon, pore over the cars for most of the weekend noting every detail. Needless to say, because all the cars are fabulous, it's not easy picking an outright winner. However, the vehicle that garnered the highest number of total points – thus being awarded Best of Show – was Lloyd Jackson's 1950 Split Window Beetle.

Believe it or not, this car started out as a total basket case as recently as last September when it first appeared in the magazine. Since then it's undergone a meticulous nut and bolt restoration, with peerless attention to detail at the genius hands of master metalworker Lloyd and the guys at Deluxe Metalwork. The result, we think you'll agree, is totally stunning. The fact that it was completed in just eight months and involved the world's top specialists, makes it even more special. You'll be able to read a full feature on it soon, but this issue on pages 74-77 we cover the engine rebuild. ■

Power to the people

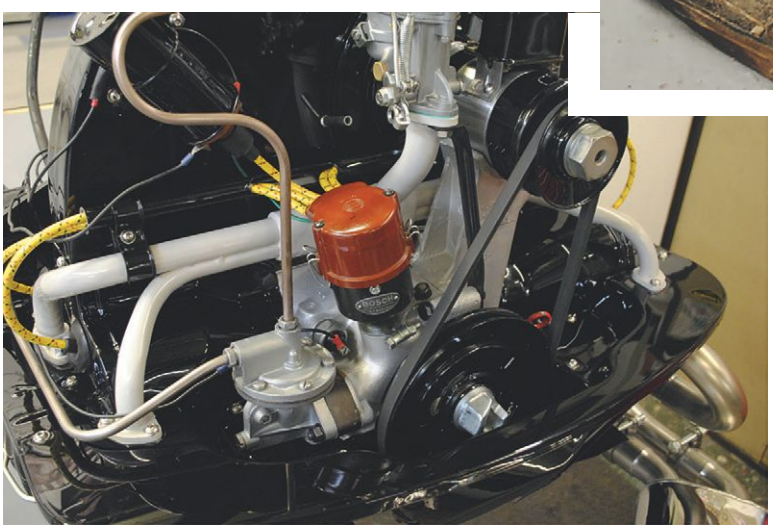
Part 10. Having become the star attraction at this year's *VolksWorld* Show, we turn back the clock in order to see what went into the 25-horse engine rebuild

Words and photos Lloyd Jackson

Stunning. If you were lucky enough to get a glimpse of Lloyd Jackson's 1950 Beetle on the turntable at Sandown in March, that's likely to have been your reaction. The last time we caught up with Lloyd at Deluxe Metalworks he was frantically doing the last bits of paintwork, getting it ready to bolt everything back on. Of course, a crucial part of this was rebuilding the original, matching number 25hp engine, which Lloyd describes as being "the heart of our restoration." Hence why, this issue, we're covering what was done in a little more detail.

When Lloyd originally bought the car, he was delighted to see the original 25hp motor was still with it. That said, he was a tad concerned about its condition, given that it was seized solid and looked to have a water mark all the way around the engine block where it had sat for a long time immersed in water. On seeing it, someone had cruelly commented: "It looks like it's been used as the anchor for the Titanic." Not exactly the sort of thing you want to hear, we guess?

As you'll see from that inauspicious start it's certainly come a long way since then.



> "he was a tad concerned about its condition, given that it was seized solid and looked to have a water mark all the way around the engine block"

Totally seized and looking like it was well past any possible repair, the Split's 25-horse was entrusted to Aircooled Engineering (www.ace-vw.com). These guys are very well respected, they took it all in their stride and didn't seem at all fazed by the shocking state of the engine. It takes serious talent to make a success of something this challenging. Indeed, if it weren't for the fact the numbers matched we would have cashed it in for scrap!

< Note the mark around the engine case where it had sat in water for so long. One of the hardest parts of saving this engine was getting it stripped whilst saving the matching number engine case, along with any other parts that could be reused

> Hours of soaking in various lubricants did nothing to free up the engine. There was only one way to get it stripped down to the case. Yes, the disk cutter came out to remove the cylinder heads, pistons and barrels. This wasn't ideal but we knew there were no other options. Consequently, we were now on a mission to source 25hp engine parts, which aren't the easiest to find

< Look at these pistons in the barrels. There's no wonder that the engine was totally seized!

< Once the oil pump cover had been removed it came apparent that this engine had been sitting for quite some time, as the combination of oil, dirt / silt and mud had totally blocked the oil pump drive

> The parts which were cut off and removed were discarded in the scrap bin – a sad sight indeed

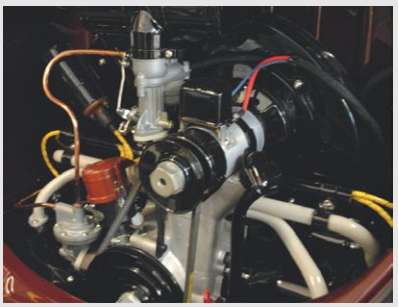
AIRCOOLED ENGINEERING COME TO THE RESCUE WITH OUR 25-HORSE

We can't recommend Aircooled Engineering highly enough for a faultless, quality engine build. They take a huge amount of stress out of your project. In this case they were miracle workers!
The West-Midlands-based firm is a one-stop engine shop started by VW and Porsche enthusiast Stefan Rossi. They offer top class custom engine builds with attention paid to every detail, inside and outside of the engine block.

Cleverly, they are able to manufacture custom-made billet steel and aluminium parts using their in-house CNC machine. Moreover, they build, drive and race all of their own cars, and with over 12 years experience, they work on all manner of air-cooled engines both in the UK and across the Atlantic. Areas of expertise include turbo engine builds for both race and street applications, IDA, Nitrous, street and strip motors as well as fast road and plain stock builds.

Email Stef at stef@ace-vw.com or call (+44) 7521 51 00 15, or get hold of Pete at pete@ace-vw.com, (+44) 7828 65 43 39.

> v And here's the finished result, in the car at the show…



v Removing the sump plate revealed a large quantity of sludge inside the engine. This is never a good sign, but it was predictable and pretty much the same as everything else we had removed at this point. Definitely not good if you're looking to do a budget rebuild

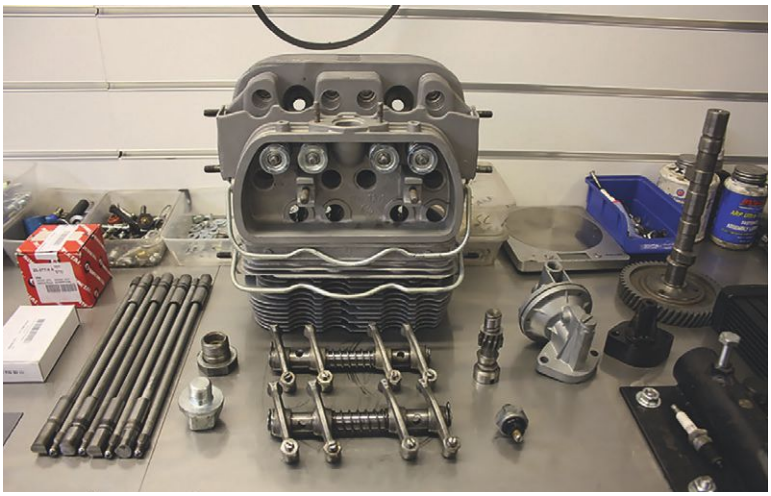
^ After the engine case had been split apart, it was evident that it was full of sand, dirt and corroded parts. The worst engine internals we had ever seen

1950 Split Bug

The rebuild

Once the engine was completely stripped, everything had to be checked. The most important part was to save the matching number engine case, which luckily was in great shape considering how bad it looked when it was first opened up. Then we had to assess which parts were useable and which ones weren't. As you may have guessed the cylinder heads, pistons and barrels were nothing more than junk. And after everything else was cleaned and checked, sadly the only part good enough to reuse was the crankshaft. Luckily, thanks to the power of Facebook, we were successful in sourcing a complete 25hp engine in bits. This included many new old stock parts and used parts with very low miles on them. A huge thanks to Darren Medland and Marco de Waal for your help with these. This great find meant that Aircooled Engineering could go full steam into building the engine.

Firstly the engine block, along with various other engine parts, were ultrasonically cleaned. Meanwhile, the crankshaft had been sent away for a regrind and the conrods had been weight matched. Having the conrods weight matched helps the engine run smoother and be more balanced through its revolutions.

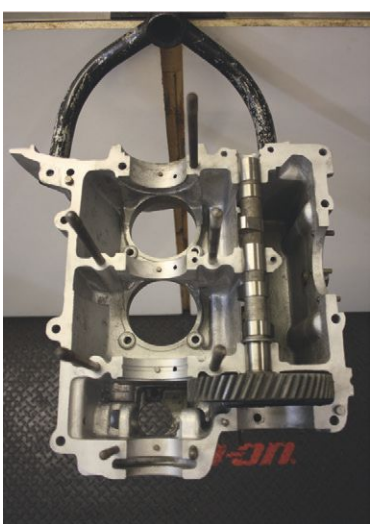


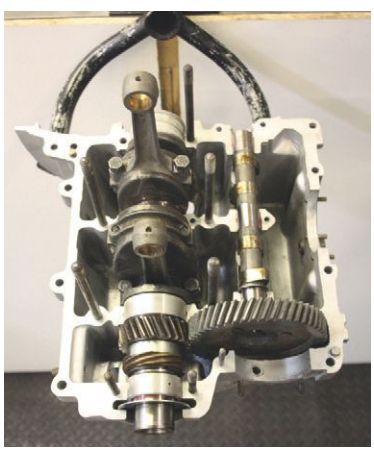
> It pays to be methodical: Aircooled Engineering double-checked everything and laid it out in sequence prior to the build up

< Various engine parts, including the pistons, barrels, conrods, crankshaft and camshaft were all meticulously cleaned ready for the install

"we particularly love how the tinware has that constant wet look to it"

^ This is the crankshaft built up with the conrods and flywheel installed

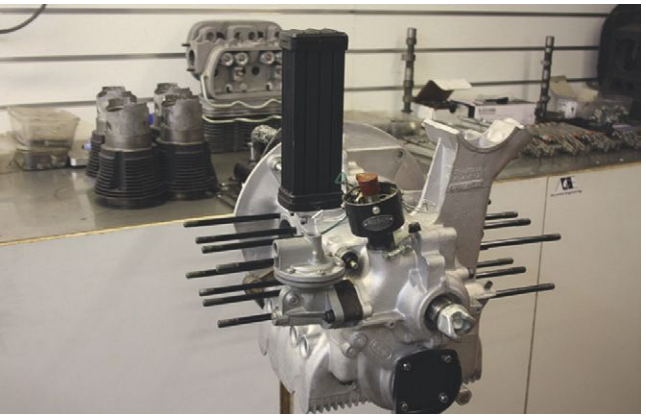




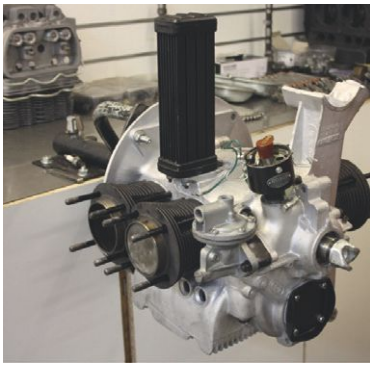
< Here's the crankshaft and camshaft installed and ready for the next stage

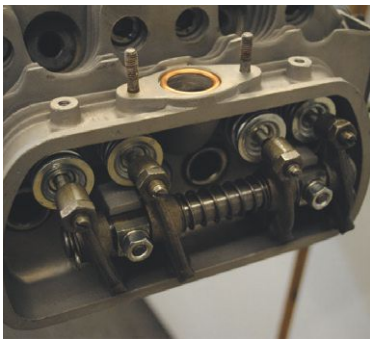
v With the main parts installed into the matching number engine case along with the oil pump, the guys at Aircooled Engineering were ready to start building up the top end

< It's amazing how clean the engine case came up considering how bad it looked when it was first pulled apart

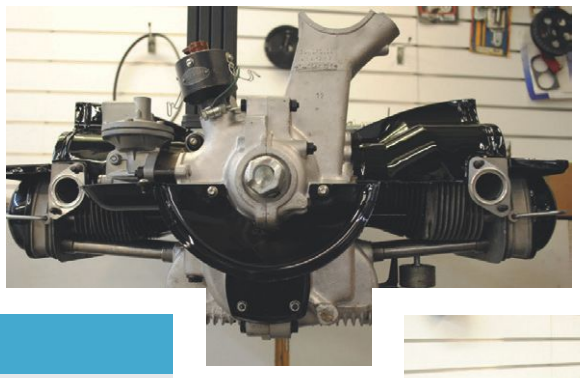


^ > The next parts to go on were the fuel pump, oil cooler, distributor and head bolts, followed by the pistons and barrels





< v Using new old stock cylinder heads and valve train, gave us great piece of mind that our old knackered engine was getting the right restoration. Note the use of black anodised nuts and bolts for a subtle, clean look



< With the long block built up, it was time for the first bits of tinware to be fitted

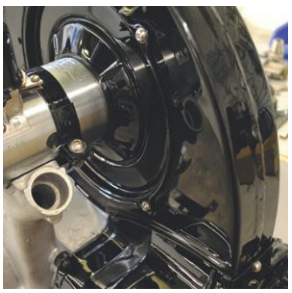
EXHAUSTING STUFF

The last part of the jigsaw was this amazing Porsche 356-style exhaust – an absolute work of art. This was the creation and masterpiece of the good people at Custom & Speed Parts in Sweden (www.vwcustomspeed.com). The first of its kind, it was custom built for our 25hp engine – a prototype for the future. It's made from stainless steel and utilises the original style heater boxes which is perfect for that vintage speed look while maintaining other stock parts. We are immensely grateful and proud to have the first of its kind on our Split Bug. We know it will be the envy and interest of anyone wanting to achieve the vintage speed look on a 25 / 30hp engine. The quality and workmanship made it ridiculously easy to fit and we love the way it's completely compatible with the original heater boxes, allowing you to use your heating system. As far as I know there is not another exhaust which accommodates this. Top work guys!

Once everything was fitted, fresh engine oil added and all the fuel lines put in place, it was time to fire up the engine on the test rig. Firstly, it was cranked over on the starter motor until it had built up oil pressure, then the ignition was wired up and timing set and spark checked. Next we added some fuel and fired it up. Well, all I can say is that Stefan Rossi, Pete Townley and myself all wore the biggest grin when it came to life. What was a completely seized engine, rose from the dead and fired straight up, sounding utterly amazing. We ran the engine for about 15 minutes setting it up and checking for any leaks (obviously there were none). I really can't explain how good this engine sounds – it's like a finely engineered clock, casually ticking with precision without any effort or aggression. The exhaust note sounds nice and deep and the engine is so quiet for a 25hp. In fact, I'd go as far as saying it's the nicest 25hp engine I have ever heard…

I'd like to offer a massive thanks to Aircooled Engineering for making this engine come alive. Their attention to detail and knowledge made this daunting task an easy one.

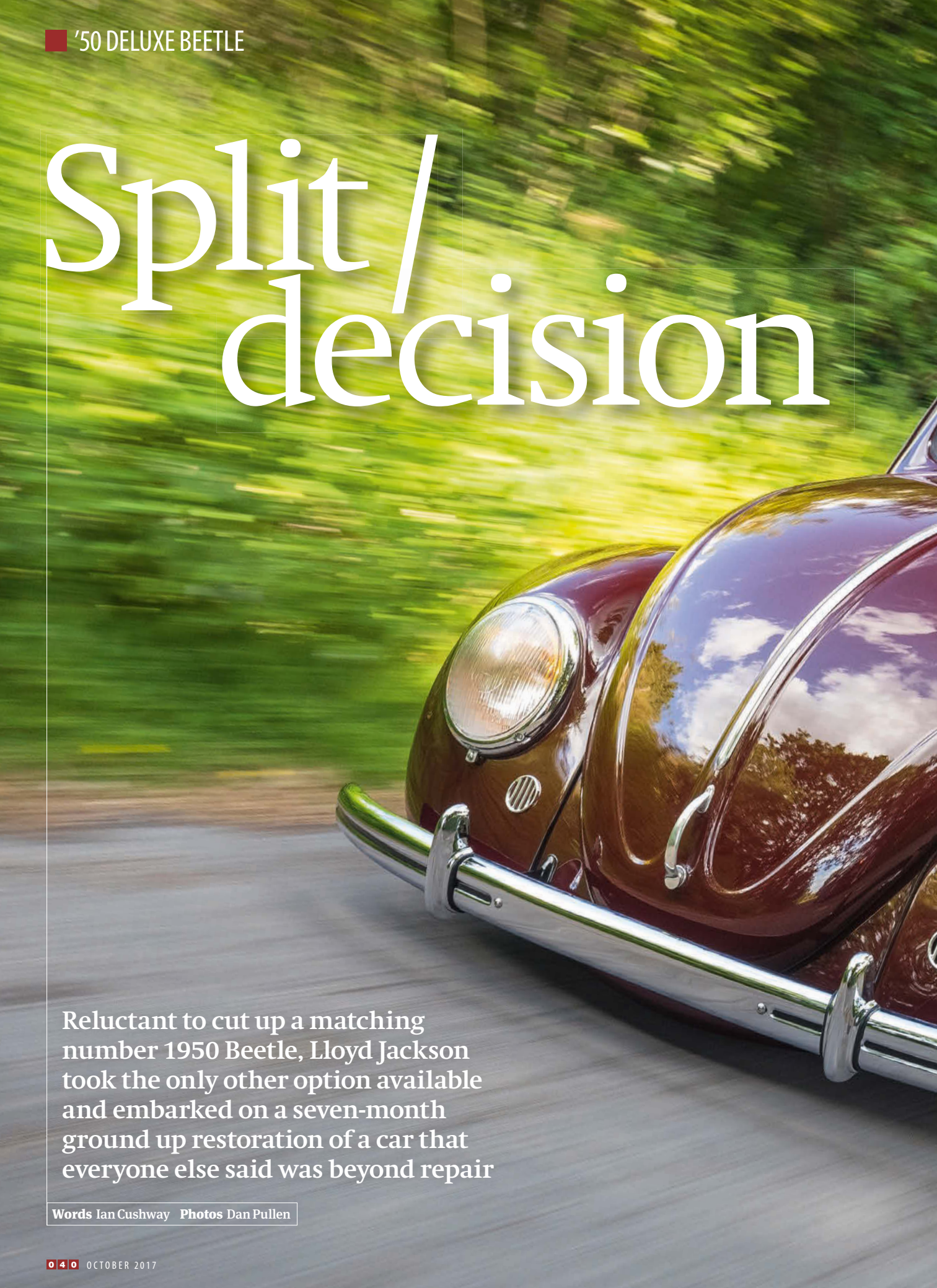
> The talented Pete Townley from Aircooled Engineering installs the fiddly thermostat and linkage



< We managed to salvage all the original tinware, although unsurprisingly we had to carry out a few repairs and dress out a few minor dents. Our very good friend and painter Sonny Bayly worked his magic getting it painted – he did a blinding job and we particularly love how the tinware has that constant wet look to it. Amazing!

> We wanted the engine to be detail correct, right down to the hard to get 'star' coil (relating to the pressings on the top), giving attention to detail on every part, no matter how small. Some parts have been zinc plated, others powder coated like the inlet manifold. The carb has been stripped, media blasted and rebuilt with new gaskets. We found a correct NOS Bosch distributer cap, date correct D-style voltage regulator, year correct dynamo and we even used cotton wrapped ignition leads

Split/decision



Reluctant to cut up a matching number 1950 Beetle, Lloyd Jackson took the only other option available and embarked on a seven-month ground up restoration of a car that everyone else said was beyond repair

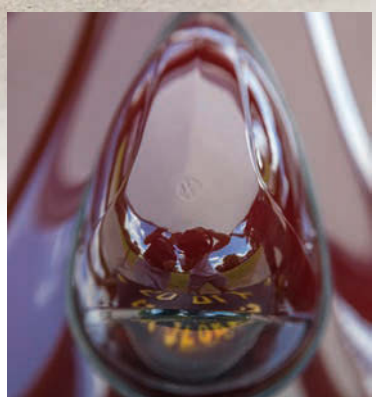
Words Ian Cushway **Photos** Dan Pullen

"you can't put a price on the work that's gone into this car"

We wonder what the first Portuguese owner would think if they could see the car today

Stainless exhaust is a work of art and was specially made for Lloyd by CSP in Germany

Lloyd planned to leave the Pope's Nose he sourced chrome, but decided it was a bit too radical and painted it the same colour as the rest of the body



Wilwood four-pot caliper with vented discs feature at the front while bigger (later) Beetle drums haul things up at the back

Polished SSP Fusch rims shod in 145x55x15 rubber at the front look great on this car

It's a bit hackneyed starting a feature with a list of superlatives, hoping that some at least will describe the enormity of the task Lloyd Jackson's achieved by completing the restoration of this 1950 Deluxe. But to hell with all that, because what Lloyd and his team at Deluxe Metalwork in Suffolk have done is basically do the impossible, work sheer magic and produce an end result that's undoubtedly better than it was when it left the factory almost seven decades ago. But more than that, in a feat that's put him close to emotional and financial meltdown, he's not only rescued a car that was, to be honest, well past saving but, against all odds, he's done it in a matter of months to a deadline.

It's funny then to discover that restoring the Split Beetle, which rightly grabbed *VolksWorld's* Best of Show at this year's Sandown Park, was the last thing on his mind when he first caught glimpse of it for sale on our favourite online auction site.

"I just couldn't bring myself to cut it up. It seemed a bit disrespectful"

"I needed some body cuts for another project and started watching it on eBay. I ended up bidding for it, won the sale, and picked it up from Portsmouth shortly after," recalls Lloyd. "But when I got it back to the workshop, because it had matching numbers that corresponded to the ones in the original logbook, I just couldn't bring myself to cut it up. It seemed a bit disrespectful."

Sourcing the required cuts from another vehicle, Lloyd put his new very rusty acquisition up for sale. But of course no one was brave enough to buy it. "Despite the fact that you'll struggle to find any kind of really early Split project for under £10,000, everyone said it was too far gone."

Rusty relic

It really was pretty bad. The vendor who sold it to Lloyd imported it directly from Portugal where it had apparently been left abandoned in a field. "Or more like a swamp," as Lloyd puts it, given the quantities of snail shells he subsequently found in the Beetle's B-posts. Rust had taken hold throughout the lower six inches of the bodyshell, the interior was shot, the doorcards were missing and the engine was seized solid. Worse still, all manner of makeshift body repairs had been carried out previously which would likely make getting back to the rare bits of good metal even more tricky.

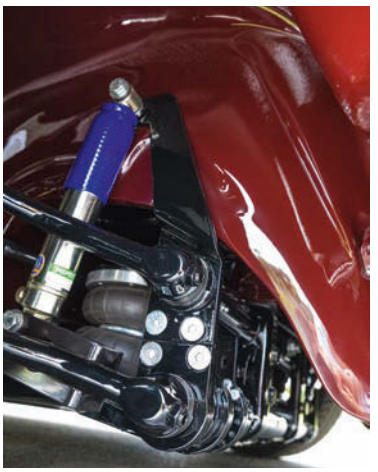
"It was truly horrendous," remembers Lloyd, "not helped by the fact that lots of rare bits like the ribbed semaphores, glove boxes, rear lights and headlights were missing, but something inside told me I had to do it. At that point, to be honest, I didn't have any other option so I thought, okay, let's crack on and see what happens."

Considering this was a restoration no one else was prepared to do, and given that Lloyd was trying to make a living working on his customer's projects at the same time, it would be easy to question his sanity. But as those who know him will no doubt confirm, despite his seemingly laid back approach, Lloyd's a man of steely determination and not one to do things on a whim. As said in action movies and marketing strategies the world over, failure was not an option for Lloyd – and by this point he'd got a

> 'Coffee can' air cleaner was found via a Facebook post. It cost Lloyd £300, but still needed a complete restoration to get it looking this good

"I wanted the opportunity of showing how a repair should look, and by doing this give people the inspiration to build better cars"

< According to the logbook, the engine that came with the car was the original. It was seized, and the heads needed cutting off, but Aircooled Engineering managed to preserve as much as they could



^ DogBack air bag front beam gives Lloyd the ability to control ride height at the front

v The tank, battery and relays for the front air beam are all cleverly tucked out of sight behind the spare wheel

powerful argument for wanting to complete his very own 'mission impossible'.

"I guess there was a certain amount of personal pride involved," he smiles. "Yes, I was keen on saving the car but I also wanted to disprove people who were telling me that it couldn't be done, that something truly this bad couldn't be resurrected. But, just as important was demonstrating some of the techniques that should be used when restoring an old Volkswagen. I wanted the opportunity of showing how a repair should look, and by doing this give people the inspiration to build better cars." In a nutshell, if we understand him right, to a large extent Lloyd took on the project for the greater good of us all, to help prevent people being ripped off by shoddy repairs. "Yes, I wanted to show the proper processes involved, so if you're paying someone £200 to repair your inner wing, this is how it should be done. You shouldn't simply get a patch welded on top of the old rusty metal."

At about this time Lloyd got in contact with *VolksWorld* asking if we'd like to document the process, share the highs and help commiserate during the lows. This was August 2016, and during discussions a rather ambitious target was set. Getting it all done in time for The *VolksWorld* Show set to take place in March 2017, a worryingly short seven months away.

Men at work

Probably still wondering to an extent precisely what he'd let himself in for Lloyd set about removing the bodyshell from the chassis, stripping things down and making a list of the bits he was missing. And it's here that social media played an important part. "I placed posts on various sites in an attempt to track down the bits I needed and immediately began finding vital parts required. I also traded some items. I had a really nice pre-'50s radio that would have looked great in an early Porsche, Split or Barn Door Bus which I swapped for a set of rear lights and an engine lid pope's nose being offered by a guy in Sweden," he recalls. "The bezels needed a bit of work, but they were complete."

While this was happening, the 'shell was sent away for media blasting at Aqua Blast in nearby Acton to remove all the old paint and flaky rust.

TECH INFO

BODY
1950 Deluxe, first registered in Portugal on 6 December, 1950. Finished in Bordeaux Red

ENGINE
Original matching number 25bhp unit rebuilt by Aircooled Engineering; CSP custom made stainless exhaust

GEARBOX
Original crash gearbox rebuilt by Cogbox

SUSPENSION
DogBack Beam Performance air beam; dropped spindles; custom built GAZ adjustable shocks at front. Rear – Transporter Haus adjustable stepped spring plates; rebuilt stock cantilever shocks

BRAKES
Front – 5 x 130 cross drilled discs; Wilwood 4 pot calipers mounted up with custom brackets. Rear – 5 x 130 late drums, backing plates, shoes etc

WHEELS & TYRES
Front – SSP 4.5in 5 x 130 Fusch with 145x55x15 Rear – Flat 4 deep 6in 5 x 130 Fusch with 205 x 65 x 15; centre caps – Design 911

INTERIOR
Interior reproduced as stock by Lenny Copp and O'Rourke's; Porsche 356A steering wheel with Petri horn ring and Borgward horn push

THE BUILD

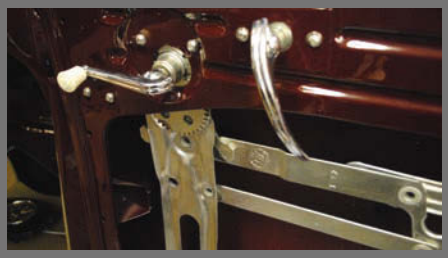
For most people, the rebuild is the most exciting part of a restoration project. There's no doubt it's a painstaking process that's easy to rush – but to cut corners at this stage is downright daft. In the manic lead up to this year's *VolksWorld* Show, we purposefully skipped this bit from our coverage. But now the dust has settled, here's Lloyd's account of how everything came back together...

^ The headliner that we had made by Lenny Copp, fitted beautifully by Kev at Car Glass and Trim in Ipswich, Suffolk. It was awesome seeing the cream wool contrast against the Bordeaux Red paint

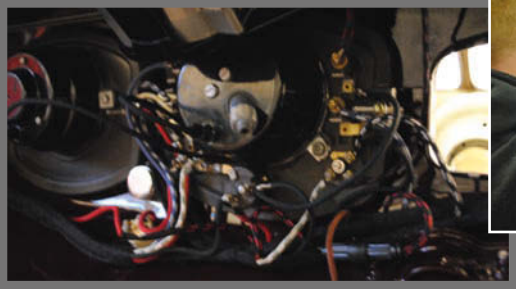
^ Rear pop-out windows all fitted. These came from Jeremy Brooks at Loose Nuts VW in the USA, hand built to order. Superb quality and very well priced

^ We had all new glass cut for this project and even etched the SEKURIT markings on the glass in the correct position so they look totally original. A time consuming detail that was worth doing to achieve the period look

v We stripped these window and door mechanisms, repaired any damaged gears, media blasted them and then had them bright zinc plated for a factory fresh look. The result speaks for itself. All part of a nut and bolt restoration making sure every detail is as good as it can be (even when it can't be seen)



v For the electrics we chose to source our wiring from VW Looms. They supply cotton wrapped wires, exactly what we were looking for to continue our period correct look. Wiring guru Adam Sharp of Sharp Auto Electrical carried out our electrical fit up. To say his attention to detail is on point is an understatement. Adam made this look easy (but I am sure it isn't) and after a long day's work, we were relieved that the complicated part of the build had been sorted without any fuss or drama – thanks Adam, the perfect man for the job!



> With the engine wiring all finished, we were ready for its first start up. An exciting moment for all the Deluxe team – and recognition of how far we'd come

v Front wings bolted up and fully detailed

^ Rear carpet set going in with the original luggage rails, which we chose to finish in gloss black. Notice the square cut section of carpet for the inspection hatch, only found in pre-1952 Split Beetles

< Bumpers and overriders fitted. Note the rubber behind the overriders – these were not fitted as standard but add a little detail to the bumpers and a cleaner look. We like to improve where we can

^ Inner doors were cavity waxed and a clear plastic covering applied to prevent any moisture getting into the door cards. Over the years I have seen many cars with the dreaded water marks on door cards and we were not prepared to see it on this car! Moisture prevention wasn't standard procedure during production of these early models, but thankfully it caught on later

> Finally, a nice finishing touch was this ID plate from Craig's Plates

HOW IT ALL HAPPENED

Lloyd first told readers about the project in the September 2016 issue of *VolksWorld* and extensive progress reports appeared in the magazine in every subsequent issue right up until The *VolksWorld* Show in March 2017. Here's a summary of how the project went from rust-riddled wreck to show winner...

September 2016 issue

With the body off the chassis, Lloyd sets about the arduous task of dismantling all the running gear and assessing what needs doing

October 2016 issue

The 'shell is sent for media blasting at Aqua Blast in Suffolk to remove the old paint and reveal the extent of the rust. Meanwhile, Lloyd makes a start on the extensive metal fabrication

November 2016 issue

The huge task of sourcing replacement panels begins, with Lloyd continuing to demonstrate the master art of welding and metal fabrication

December 2016 issue

Unable to source a replacement, the team at Deluxe Metalwork make their own rear luggage panel from scratch – a job that takes a week and involves making special tooling

January 2017 issue

More skilled bodyshell work is undertaken, while at the same time attention turns to the gearbox and engine, the original crash 'box going to Cogbox for a rebuild

February 2017 issue

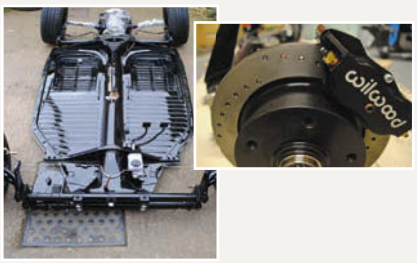
After four month's work on the body, there's still the finer points to complete. Lloyd even demonstrates the technique of lead loading

March and Spring 2017 issues

At last the bodyshell is ready for a respray and is sent off to Spike's Vintage Restoration. Meanwhile, the floorpan is painted, fabric for the interior is sourced from Marcus Raeke in Germany, and sent over to Lenny Copp at West Coast Classic Restoration in LA

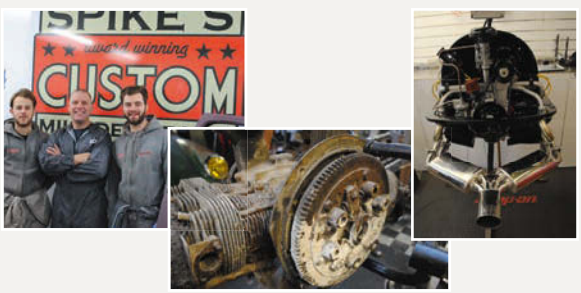
April 2017 issue

The painting process continues, alongside work on the chassis – including the fitting of a DogBack Performance air bag beam, dual circuit brakes and a Wilwood front disc set-up



June 2017 issue

While Lloyd was given a month's leave for the May issue, work centred on the engine. It was the original matching number item, but seized solid. The rebuild took place at Aircooled Engineering, the icing on the cake being a custom built Porsche 356-style exhaust, built especially for Lloyd by Custom & Speed Parts (CSP) in Germany



The editions of VolksWorld *referenced above are all available as Back Issues – visit* **shop.kelsey.co.uk/issue/list/publication/VWW**

But of course, what it also did was reveal the full extent of the corrosion. "Old VWs always have to get worse before they get better and the blast process exposed lots of very thin metal that would need replacing," says Lloyd. "By the end of it the Split's body resembled a tea bag. Even the bottom of the dash had rusted through."

A revised work schedule was hastily formulated, various body panels ordered, and Lloyd continued his search for missing bits. "It was a case of going to shows, talking to people and finding out about parts by word of mouth," says Lloyd. "We got lucky at Lavenham's historic VW show because we managed to find a pair of new old stock inner A-post panels, still with their VW labels attached. They're like hen's teeth."

With parts arriving at the Deluxe workshops on a daily basis, the team began tackling the extensive metal work repairs, all the time aware of their near impossible deadline and other work commitments. Said Lloyd: "It was a case of planning for everything to arrive when we needed it and juggling other work. Every day I would have a list of jobs to complete on the build and tick them off as I went along."

From a magazine point of view, what we were witnessing each month as Lloyd filed his latest submission of high-quality photographs, was some of the finest quality craftsmanship we'd seen, the work of a true genius. This wasn't just 'body repairs', it was metal fabrication magic.

Taking its toll

Needless to say, working under such pressure started to tell on Lloyd, both financially and mentally – something he assures us nearly always kicks in halfway through a restoration. "It felt like we'd already invested a lot of money and time, but there was very little to show for it at this point. We were only using the very best quality parts, and these cost money. I knew things had to get worse before they got better, but there were parts everywhere and I'd hit a real lull."

While at times like this, the best policy is to walk away, have a break and start again with renewed enthusiasm, Lloyd's target of getting it ready for Sandown Park meant this wasn't an option.

"Mentally there were times when I could have pushed it outside and left it to rot," he reveals. And he wasn't the only one, because by

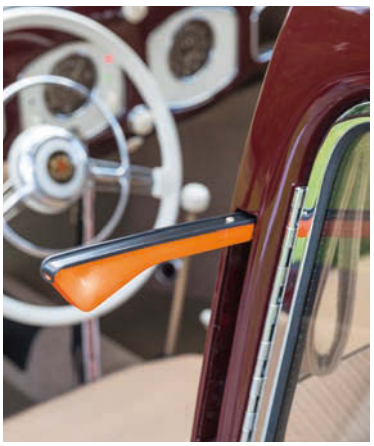
Bordeaux Red looks great from any angle, especially when you know the car that's wearing it left the factory 67 years ago in this colour

Rear lights were missing when Lloyd got the car but he managed to find the correct glass lens originals with the Hella logo in the centre

Fabric for the interior was sourced in Germany, sent to the US to be stitched together, then fitted to the car in the UK by O'Rourke Coachtrimmers. Spot the colour-coded 30mm air pressure gauge under the dash? Thought not

Rear view mirrors became rectangular from 1949 and were polished on the Deluxe models

Steering wheel is an ultra rare Porsche 356A item with a Petri ring and Borgward horn push



Semaphores are date stamped September 1950 and came from Bob at BBT in Belgium. They're perfect for Lloyd's October 1950-built Bug but, as anyone who has tried to source a pair of these in this condition will know, they cost about the same as a family holiday

The speedo was with the car, but the pod it fitted into was missing…

involving some of the UK's top specialists and giving them a ridiculously tight deadline, this was impacting on other people as well. "By the time the body was ready for paint at Spike's Vintage Restoration, they were having to work through into the evenings and at weekends to get it done. Everyone was tired, and it took a lot of determination by everyone involved to get it finished."

Looking back, the hardest most challenging part of the body fabrication was the boot floor panel where it goes over the gearbox. The original panel was badly holed and wafer thin and finding a replacement was totally out of the question, and therefore making a new panel from scratch was the only solution. "That panel has deep ribs, two curves and features an inspection hole so it was horribly complex to replicate," winces Lloyd. "We had to make special tooling to begin with then spent a week of 10-hour days actually making it."

When Lloyd found himself close to breaking point, he would resort to switching from one section of the car to another. So he might go from an intricate weld to rebuilding the suspension. "The problem is, when you get frustrated you tend to rush things. You don't do things with the same level of pride. If you want the best finish, it's all about patience."

Team effort

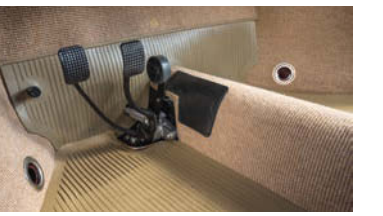
With the last few bits of body repair still ongoing, attention was turned to the rest of the car – namely the engine, gearbox and interior.

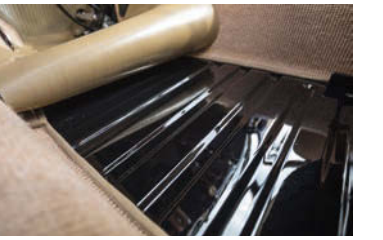
The car's original crash gearbox was lovingly rebuilt by transmission guru Pete Englezos at Cogbox, while the matching number 25bhp engine was delivered to Stefan Rossi at Aircooled Engineering. Fortunately, the 'box was in reasonably good nick and only needed a rebuild. However, the engine proved to be a different matter. It was seized solid and there was no option other than to cut off the cylinder heads, pistons and barrels, the objective being to save the matching number case which had been in the car for the last six decades.

With just over a month before the car was due to be on display at The *VolksWorld* Show, the body was despatched to be prepped and painted at Spikes, Lloyd choosing the gorgeous Bordeaux Red, the original factory colour, rather than going for a crazy custom finish.

Lloyd obviously had to think about the running gear as well while rebuilding the chassis, and while he was keen on keeping the car looking relatively stock – he saw scope for

"there were times when I could have pushed it outside and left it to rot"





^ v The finish and fit here is possibly better than when the car left the factory. Even the bits you can't see are shiny on this insanely detailed Split

^ Side cushions always a classy addition to the rear bench in a Split Beetle

making some subtle upgrades along the way – including fitting a 4in narrowed DogBack Performance air bag beam and uprated brakes.

While this was going on, the seat frames were being repaired, seat covers, doorcards, headliner and carpets were being frantically stitched together over in the States by the legendary Lenny Copp at West Coast Classic Restoration. As soon as the parcel landed in Blighty, everything was painstakingly fitted into the car by specialist O'Rourke Coachtrimmers in West Sussex.

End game

Coming up to just days before the show, all that remained was to painstakingly screw everything back together. We even gave Lloyd a month off from his regular reporting in the magazine to spare him a bit more time to ensure the car was ready.

Needless to say, it duly arrived at Sandown Park, was carefully manoeuvred onto one of the prime turntable positions and provided a show highlight for the thousands of visitors that arrived from all over the world that weekend. Jobs-to-do ticked, mission accomplished, the impossible accomplished to create what is recognised as being one of the most beautifully restored Split Window Beetles in existence.

But what value do you put on such a car? It's hard to say exactly how many Split Rear Window Beetles have survived – roughly 300 would be a half reasonable guess, so they're not ultra rare. But is there another quite like this? As Lloyd puts it: "It's a tough one. Find me another one with the same ridiculous attention to detail. There are cars with a more extensive history, but you can't put a price on the work that's gone into this car."

Lloyd's thinking all along was that if you've got something that's fundamentally worth a lot of money, it's worth doing properly. And while everyone did him a good deal on parts and their various services, it's still cost a lot of money – and that's not taking into account Lloyd's own time. Indeed, for insurance purposes, a figure of €120,000 (or £100,000) has been bandied about.

Of course, having created such a beautiful car, there's also the question of what to do with it. A dilemma that's likely to hinder Lloyd in the years to come. "Generally, I build cars to drive them. But because this one is so ridiculously detailed I've only driven it a few miles for the photoshoot. I'd say for every half an hour of driving, it takes 2-3 hours of cleaning. Dust is the worst culprit, it gets in all the nooks and crannies."

Realistically, it's a full on show car and it's likely to hit the showscene over the next couple of years in the back of Lloyd's custom built transporter. He's even thought of approaching his local VW dealership, asking if they'd like it in their showroom. "That's another idea, and at least people would get to see it," he comments.

But while the team that built it is still playing catch-up with sleep, outstanding work and finances – they can satisfy themselves that not only have they saved an early car that was destined to be broken, but also done it in a way that the factory workers at Wolfsburg 67 years ago would have been proud of. ■

THANKS TO...

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